

INTERNATIONAL SYMPOSIUM ON HUMAN IDENTIFICATION

November 2023

The ISHI Report

News from the World of DNA Forensics

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The ISHI Report

Letter from the Editor

Greetings from Madison, Wisconsin where we're preparing for the holiday season with friends and family and the cooler winter weather. Before we close out 2023, we have one more issue of the ISHI Report to bring you news from the field of forensic DNA.

In this issue, we open by reflecting on ISHI this past September with our student ambassadors. They share their impressions of the conference, important contacts they've made and how this will benefit their research, and their takeaways. We were grateful that a near record number of you were able to join us in Denver, and we hope you'll all save the dates for September 23-26, 2024, for the 35th anniversary of the conference.

We interviewed Genevieve Ritchie-Ewing who is guiding the development of a different kind of Forensic Studies Program at Central State University that includes classes within criminal justice, sociology and a focus on DEI and crime scene analysis.

In addition, our Promega colleague, AnnaKay Kruger explores forensic reform over the years and how this impacts the roles and responsibilities of forensic experts while providing courtroom testimony.

Olivia McCarter shares how a collaboration between the Mobile County Sheriff's Office, Intermountain Forensics, and MVAC allowed for the generation of a DNA profile from an old ceramic dental mold and helped to restore the identity of Ada Elizabeth Fritz.

Co-founders of the Global SAK Donation Project Vanessa Lynch and Jennifer Degner share the origin story of the project, and successes in Zambia and Somalia and ways that the community can get involved and provide support.

Finally, we are excited to announce the newest members of the ISHI Advisory Committee. We look forward to conferring with them as we plan next year's conference.

We hope you enjoy this issue of The ISHI Report and share a warm holiday season with those closest to you. We welcome your comments and contributions to future issues and will be back with another issue in February of the new year.

Warmly,

The Editorial Board

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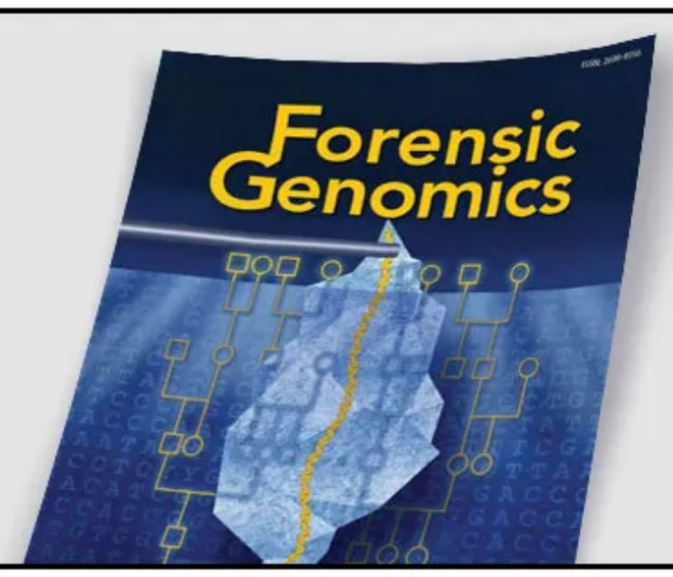

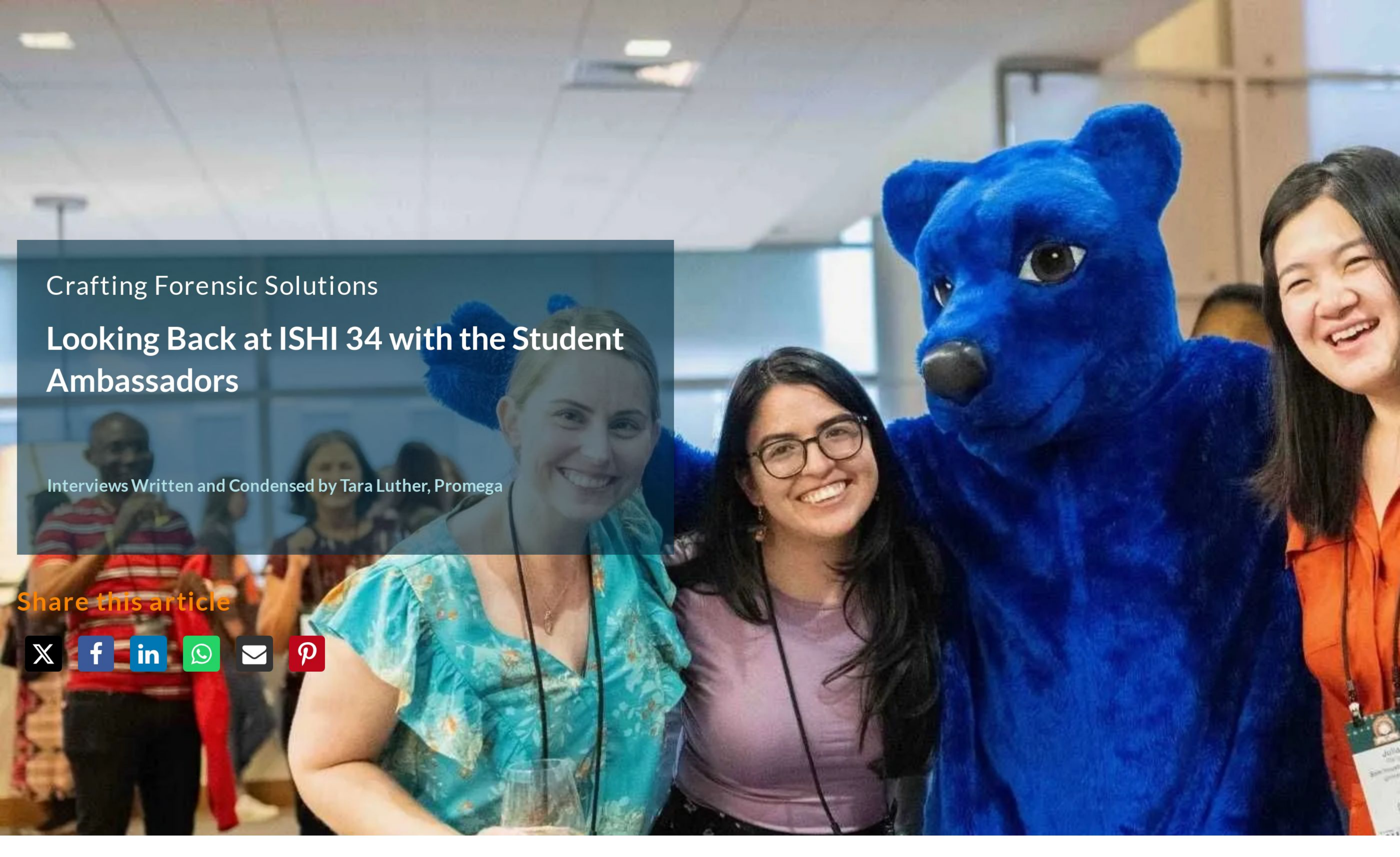

Crafting Forensic Solutions

Looking Back at ISHI 34 with the Student Ambassadors

Interviews Written and Condensed by Tara Luther, Promega

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Three years after a fully virtual symposium in 2020, it's safe to say that the 34th International Symposium on Human Identification felt like a return to normalcy. With attendance reaching near record levels, including nearly 1/3 of attendees coming for the first time, it was great to see so many of you in the fill the Hyatt Regency and Colorado Convention Center in Denver from September 18-21, 2024.

Topics such as burnout and resiliency are not often spoken about in forensic DNA. This year's keynote, Allison Massari, taught those in the audience the potent life lessons that she learned on each step of her path after she was severely burned in a fire and faced seemingly insurmountable odds and provided actionable steps that can be taken to improve personal resiliency.

Julie Weil, a sexual assault survivor and global activist, shared her story of how she persevered after her assault and continues to work to turn victims into strong survivors by championing for change in the way survivors of sexual assault are treated in the system.

Forensic Investigative Genetic Genealogy continues to be a topic of interest with presentations focused on standards for the field and how the technique should be used going forward. Our expert panel discussed considerations in genetic privacy within the DNA field.

Other topics included implementing Rapid DNA, emerging technologies in the field, massively parallel sequencing, a closer look at the MMIP/MMIW crisis and much more.

Among the newer faces were our four Student Ambassadors, Julia, Beighley, Cassie and Kayli. Below, they reflect on their time at the conference.

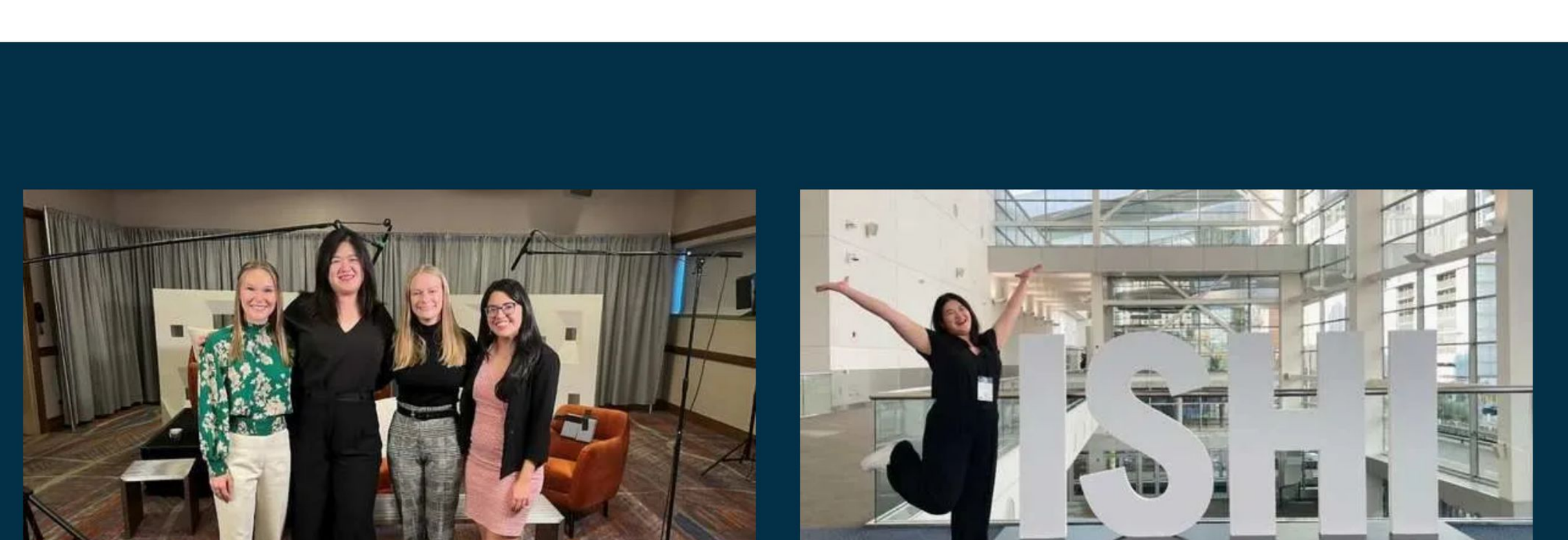
What were your first impressions of the conference?

Julia Wang: My initial impressions of ISHI were centered on the warm and enthusiastic atmosphere throughout the workshops. It was inspiring to be surrounded by practitioners so eager to expand their expertise. My aspiration is to make meaningful contributions to the work of crime labs, and observing the dedication to enhancing practitioner knowledge gave me a sense of optimism.

Beighley Ayers: I had an amazing time at ISHI. I had heard great things prior to coming from our professors and previous students who attended the meeting, and it did not disappoint all the expectations! We had such a great group from Towson University attend which was super fun, and I loved getting to know the other ambassadors from Sam Houston University.

Cassie Skrant: At first, I was shocked by how many people were in attendance. My graduate program is rather small, so I never thought about how many people are interested in human identification throughout the world. As the conference went on, I saw how collaborative and friendly the environment was, even when discussing certain controversial issues within forensic science and human identification. Every individual, no matter how well educated and accomplished, was so kind and open to having a discussion. It really made me so hopeful for the future of forensic science and how it will continue to improve because of conferences like ISHI.

Kayli Carrillo: My initial reaction upon attending ISHI was a mixture of intimidation and exhilaration. It was awe-inspiring to witness the sheer number of attendees gathered for this conference. There was a diverse range of students and professionals from varying backgrounds, which was so exciting to see.



How does ISHI compare to other meetings you've been to?

Julia: To me, ISHI is the perfectly sized HID and DNA-focused conference. ISHI seamlessly combines a diverse range of presentations, offering an opportunity to explore the cutting-edge advancements in forensic DNA within crime labs and research.

Beighley: I have been to a couple other scientific meetings, but ISHI tops them both. ISHI felt like such a celebration of all the hard work we put into our research. I also liked that it was all centered around DNA.

Cassie: Before ISHI, I attended MAAFS which was a short drive away from Towson. At MAAFS, I met multiple local agencies, which was amazing to make some new connections near Towson. Even though MAAFS had a lot to offer for local connections, ISHI provided me the opportunity to meet individuals from all over the world. Having attendees and speakers from various parts of the world really helped me make connections around the world and hear different opinions.

Kayli: Previous conferences I've attended primarily revolved around smaller, DNA-specific, and/or interdisciplinary forensics focuses. ISHI was the largest DNA-specific conference I have ever attended, and attendees were not only from across the country but from all corners of the world. Witnessing professionals and enthusiasts from diverse backgrounds showed the strength of the international forensic community and their passion for advancing the field.

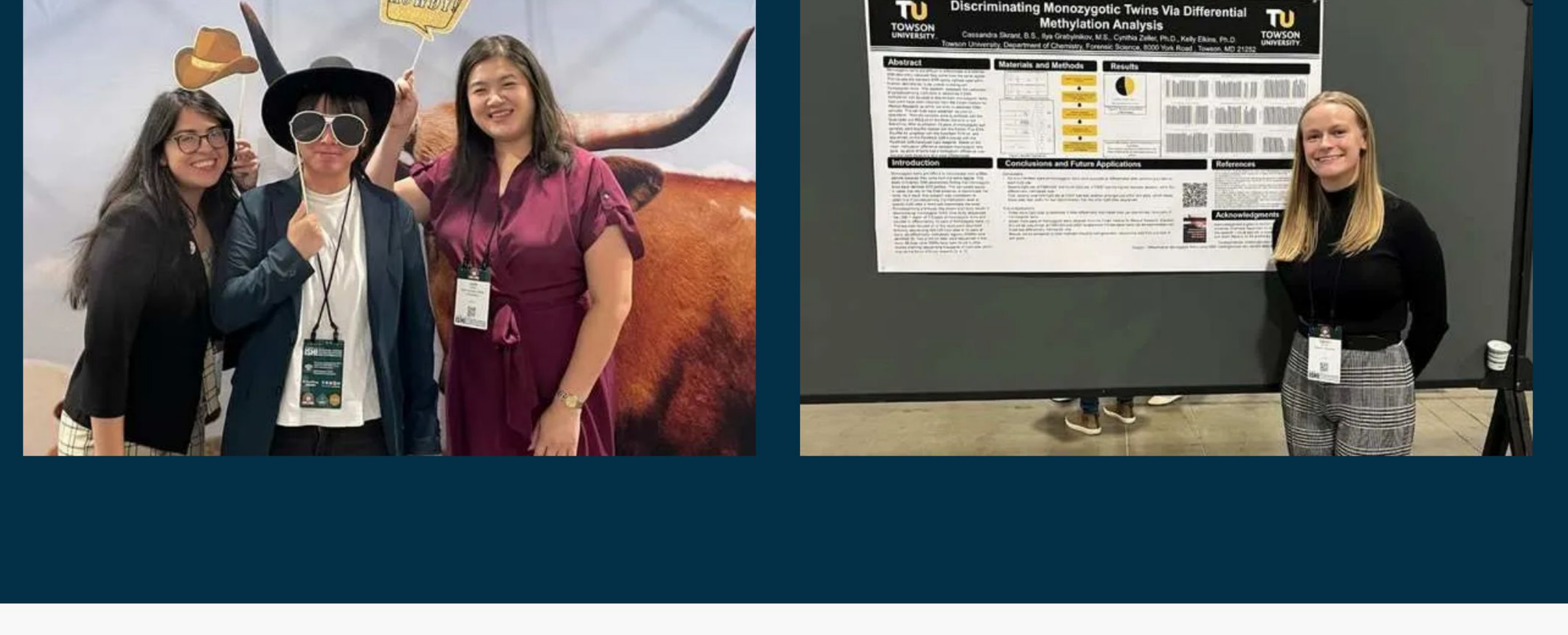
What was your favorite part of the conference?

Julia: My favorite part of the conference was attending the workshops and meeting people from labs across the globe. Hearing these diverse perspectives helped me greatly to understand the relevance of my current research projects and to brainstorm on future needs.

Beighley: My favorite part of the conference would probably be the night at the Denver Science Museum. It was special to have the entire museum shut down to the public and just allow ISHI attendees to be there. The exhibits were cool and of course, there were some excellent dance moves on the dance floor.

Cassie: I think my favorite part of the meeting was the portion at the Denver Science Museum. Not only was it fun to go around the exhibits and see mummies, but it was also great to see professionals and intelligent individuals let loose and have some fun. I also found this night a great way to make connections in a very comfortable and casual setting where you can learn more about what a person is truly like inside and outside the office.

Kayli: The most enjoyable part of the conference for me was meeting new people and making new connections. I loved meeting other fellow students who shared my enthusiasm for the field, and I hope to see them at future conferences. I also enjoyed speaking to professionals who had so much knowledge that they were so excited to share with me, which helped broaden my understanding.



Did you make any new connections with attendees that will assist in your research?

Julia: During the workshops and poster sessions, I had the privilege of having some enlightening conversations with DNA analysts from different crime labs. These interactions provided me with a deeper understanding of the needs and hurdles they face while working in the lab. Considering my dissertation focuses on sexual assault, I also received some helpful feedback and words of encouragement from experts who are passionately committed to improving the analysis of sexual assault evidence.

Beighley: I actually did speak with an individual at a lab where we discussed a way to collaborate to further test my body fluids assay. I do not want to provide any spoilers yet but I think the connection and opportunity could be really exciting.

Cassie: As a student ambassador, we hosted the Young Scientist Showcase. One of the presentations was on pyrosequencing. His presentation was very informative, and it was interesting to see other ways pyrosequencing can be implemented in forensic human identification. I also met an individual who performed twin research and enlightened me on other methods to differentiate monozygotic twins. Both experiences helped me broaden my knowledge on twin discrimination and pyrosequencing.

Kayli: During one of the table talk lunches, I had the pleasure of talking with Dr. Douglas Hares from the FBI, who is spearheading the implementation of Rapid DNA. One of my upcoming research projects involves the application of the RapidHIT for DVI (Disaster Victim Identification) samples. This was truly an enlightening discussion about the future of RapidHIT.

Also, the poster sessions provided networking opportunities. I was able to connect with researchers from UNT Health Science Center who are actively conducting research with the RapidHIT instrument. Their experiences and insights about the instrument will be beneficial for when I start my project.

An additional project I will be working on will involve the use of Diamond Dye to visualize DNA. One poster described the use of Diamond Dye, and I was able to gain advice on working with the product.

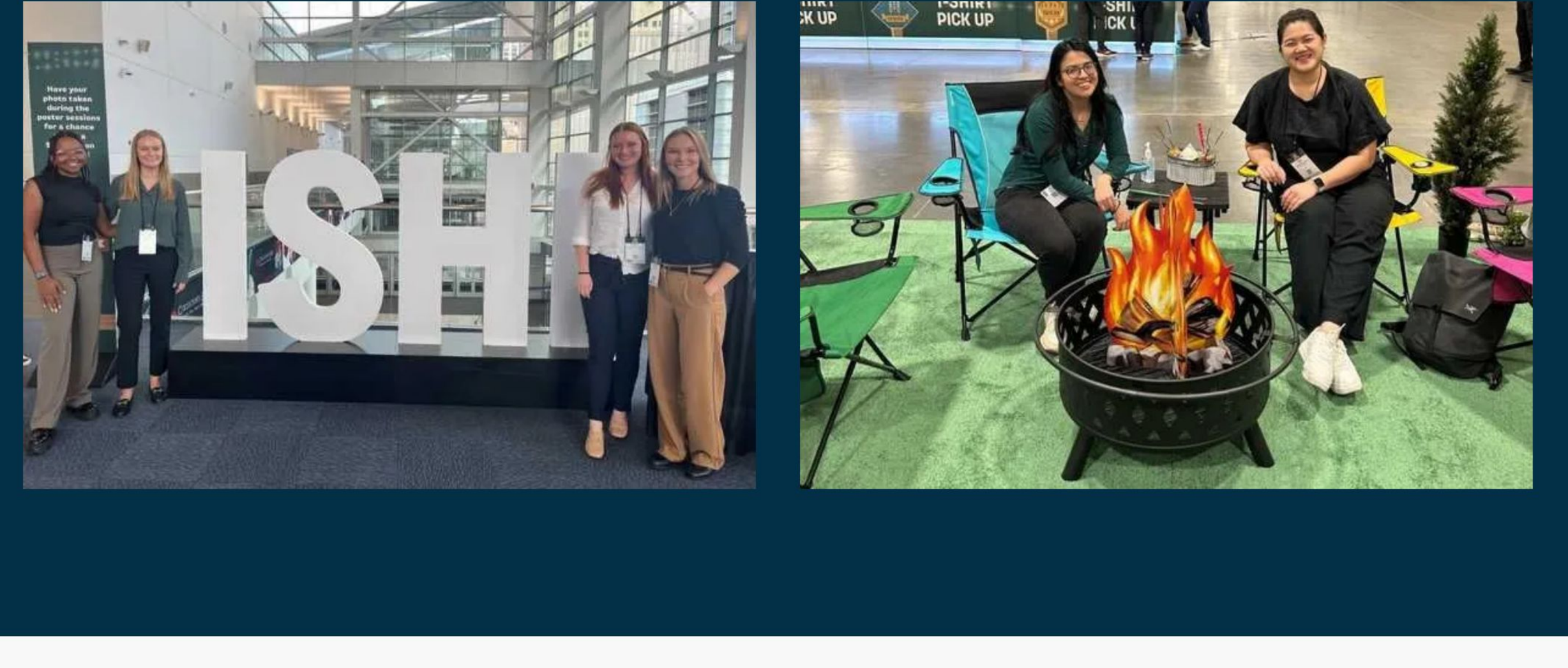
What is one thing that you learned while at ISHI?

Julia: I gained valuable insights into the practical applications of likelihood ratios and explored more advanced propositions than what I've encountered in the classroom. It was especially enlightening to learn how to formulate compound and complex propositions involving related individuals. I'm grateful for the numerous examples, exercises, and engaging discussions that enriched the workshop experience.

Beighley: It is hard to share just one thing I learned at ISHI because I felt like a sponge taking in fascinating information each day. I did learn of many new companies and labs that I was not aware of before for potential places to apply for jobs soon. I also learned so much at each workshop, especially at the FIGG workshop with the interactive mock case we worked on.

Cassie: Before this conference I said that I wanted to learn more about forensic investigative genetic genealogy. After attending this conference, I learned way more about forensic investigative genetic genealogy than I ever would have thought. The interactive workshop by Alison Wilde, Wendy McLean, and Claire Glynn was so fun. I loved the interactive component because it really helped me learn the entire process and all the resources available to make FIGG possible.

Kayli: A valuable lesson I learned at ISHI pertains to the intricate relationship between legislation and forensics, particularly in the context of FIGG and Rapid DNA applications. FIGG has steadily increased in popularity and potential over the years, but there are legal considerations that must be addressed, especially with ethics. This pivotal role that policy plays in the successful implementation of forensic applications is sometimes overlooked, but listening to the talks demonstrated its importance.



Do you have advice for other students considering attending ISHI?

Julia: Apply for ISHI Student Ambassador! Even if you don't get selected the first time, apply again! This was my second attempt at becoming an Ambassador, and I am thrilled to have persisted. Thanks to this role, I had the chance to connect with more people and participate in workshops that I had not encountered at other conferences.

Don't hesitate to strike up conversations or ask questions. Everyone was friendly and approachable!

When the dress code is "dancing shoes", they mean it!

Beighley: Talk! Go up and talk to vendors, forensic scientists, other students, attorneys, and anyone else you can find. You never know where the connections will take you one day.

Cassie: Talk to as many people as possible. Everyone is so kind and knowledgeable that you will always learn something new. Forensic science and research involving human identification can include multiple different areas of knowledge. It is impossible to be an expert in every area of forensic science, so it is best to use these conferences to listen and learn from some real experts so that you can apply it to your own research or job.

Kayli: While it may be intimidating to talk with new people, ISHI provides a unique opportunity to connect with others. I would encourage students to seize the opportunity to network with as many individuals as possible. Everyone is supportive and welcoming to answer any questions. Embrace all the opportunities available, try to step out of your comfort zone, and approach the conference with an open mind - you won't regret it!

What are your biggest takeaways from this year's conference?

Julia: Rapid DNA technology is making strides in its expansion into booking stations.

Forensic Investigative Genetic Genealogy is evolving from a "miracle" tool to a practical tool thanks to the collaborative effort of the genealogy and forensic DNA communities.

Beighley: One of the things I took away from ISHI is that all the people I follow on LinkedIn or know of in the forensic community are people too. Sometimes we look up to people and feel intimated or have this perception they are different than normal people, but at the conference, everyone was incredibly nice and approachable. It made me feel more comfortable knowing everyone around me were "normal" people too. That helped me gain confidence that I can have a successful career and reach my goals just like all the impressive people I was fortunate enough to be around all week at ISHI.

Cassie: My biggest takeaway is that forensic science is constantly changing. The work forensic scientists perform can have a major impact on people's lives, so it is important that the best and most up-to-date lab work is performed.

Kayli: The sense of collaboration within the forensic field is truly evident. There is a vast reservoir of knowledge that can be shared among peers, and the pursuit of learning is a continuous journey, regardless of one's experience. The impactful presentation by Julie Weil demonstrated the real-life impact that work and research within the field directly impact lives. This realization carries a considerable weight of responsibility. Nevertheless, it serves as a constant reminder of the need for self-care and resilience, as keynote speaker Allison Massari mentioned, to ensure that we are working to the best of our capabilities.

Anything else you'd like to share?

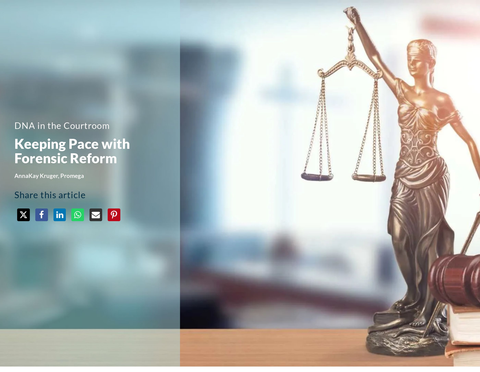
Julia: Thanks for letting me be a student ambassador! I had a fantastic time and am excited to see everyone in San Antonio next year!

Beighley: I sincerely want to thank ISHI and Promega for not only putting on this tremendous event but also allowing me and the other three ambassadors the opportunity to be part of it. I loved hearing all the talks and meeting so many people from around the U.S. and the world. I have made many valuable connections. This would not have been possible without the support from Towson University and Dr. Cynthia Zeller. I am so grateful I got to attend ISHI this year, and I hope to be back one day!

Cassie: I would just like to thank Promega for choosing me to be a student ambassador and providing me with so many opportunities to share my research and make connections with some lovely people.

Kayli: I would just like to thank ISHI for allowing me the incredible opportunity to be a student ambassador. My experience was immensely enriching, from the people I met to the knowledge I gained. ISHI 33 is definitely an experience I will never forget. I can't wait to see everyone next year in San Antonio!

We will begin accepting applications for our next batch of Student Ambassadors in February 2024. If you are interested in applying, be sure to add your name to our mailing list.



DNA in the Courtroom

Keeping Pace with Forensic Reform

AnnaKay Kruger, Promega

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Grounded in empirical validation, DNA analysis is widely considered the gold standard of forensic science. In contrast, the perception of DNA analysts in the courtroom has undergone a noticeable shift over the years toward greater skepticism. In the early days of DNA forensics, expert testimony held significant weight, with, some argue, little critical scrutiny. More recently, the focus in court has changed, placing more emphasis on the methodological rigor and quality of forensic analyses over simply trusting the testimony of the analyst.

"There is no longer the sort of reverence afforded to expert witnesses when they walk into a courtroom like there was when I first got into it. Before, you were looked upon with reverence first, and then scrutiny. Now, you're lucky to get the reverence," said John Collins, former forensic laboratory system director for the state of Michigan and founder of the leadership coaching organization Critical Victories. He first testified in court in 1993. "I happen to think that's reasonable," he added. "I don't think that you should be granted reverence that's not earned."

This paradigm shift has sparked debate about the respective roles and responsibilities of DNA analysts and other members of the court in ensuring the sound analysis, interpretation and presentation of forensic DNA evidence in criminal cases.

The CSI Effect

Increased confidence in the scientific standards by which laboratories analyze DNA, coupled with a deficit in the thorough understanding of how DNA analysis can be reasonably interpreted and applied, has led to new challenges for DNA analysts, who are called upon to effectively communicate the complexity of the science and the nuance of the analyses to a court system that some argue may rely too heavily on circumstantial DNA evidence to concretely prove guilt or innocence.

Tiffany Roy, forensic DNA expert and president of the forensic consulting agency ForensicAid, pointed out that, since the question of who is no longer routinely contested given the precision of the methodology, questions in the courtroom have shifted more to the how.

"The questions in court now are not so much about whose DNA it is—though that is an important question—but now revolve around how that DNA came to be there, and whether or not it was from innocent activity, or whether it was from a crime," said Roy. "But we're never going to know what happened at the crime scene. We weren't there, and the appearance of the DNA profile doesn't tell us those things."

Forensic DNA experts seem to widely agree that the how cannot be determined by an analyst. However, the so-called "CSI effect" and the empirical rigor of DNA analysis may lead those unfamiliar with the technology to incorrectly assume that DNA analysis represents a "smoking gun" rather than a single piece of supporting evidence in a larger case.

"I think attorneys will often ask about the activity associated with the DNA. There was [a suspect's] DNA on the knife, therefore that knife had to be held by the suspect to stab somebody," said Brian Kim, supervising criminalist in the Serology and DNA Unit of the Los Angeles Police Department. "That's a bit of a leap, and, ideally, you would want a judge to confirm that that line of questioning is leading."

From Crime Scene to Courtroom

Kim's example illustrates how, in a courtroom, the presentation and interpretation of DNA evidence is a collaborative endeavor influenced by multiple key players, not solely the analyst. This interplay shapes how DNA evidence is communicated within the courtroom and subsequently understood by the jury.

In judicial proceedings, assuming DNA evidence is collected within the bounds of probable cause and is then properly handled and tested in an accredited laboratory following the appropriate protocols and procedures, a comprehensive report will be issued by the laboratory. This report will include what was tested, who tested it, protocols used and conclusions reached by the analyst. The report is then shared with the defense and evaluated for admissibility. If deemed admissible, the testifying expert will be expected to convey the findings and their significance to the court.

There are two sets of standards that courts use to determine whether DNA evidence is accurate, reliable, and thereby admissible. These are the Frye Standard, wherein the question of admissibility is delegated to the scientific community—admitting expert testimony so long as the methods for genotyping and interpretation are generally accepted within the scientific community to be sound—and the Daubert Standard, which upholds the Federal Rules of Evidence (in particular Rule 702) and identifies judges as gatekeepers, admitting expert testimony if the judge deems the expert qualified and the methods reliable. These are not uniformly applied across all cases and vary between states, though Daubert has largely surpassed Frye. However, there is debate over whether judges can reasonably be expected to "keep the gate" under Daubert given their lack of technical expertise. The answer to the question of where the responsibility truly lies, even beyond legalese, is fairly muddy among experts, but largely reflects that it is somewhat shared between the judge and the testifying analyst.

Julie Sikorsky, manager of the Forensic Biology Unit at the Palm Beach County Sheriff's Office in Florida, explained: "The short answer is that both the judge and the scientists have a responsibility to make sure only scientifically valid and reliable evidence is presented in court. In reality, the ultimate responsibility does fall to the judge, as they are, after all, the gatekeepers. So we enter into this catch-22—while it ultimately relies on the judge to permit this evidence, it does trickle back down to, and is really only as good as, the testifying scientist."

She added that, as a testifying analyst, the biggest challenge to bringing DNA evidence to court is ensuring that she can educate the triers of fact, be that the judge or the jury, enough to understand and appropriately contextualize the evidence she presents.

"I'm literally trying to teach them in a couple of minutes what it took me years of education, training and experience to learn, and expecting them to understand it, internalize it, and then apply it to what I'm presenting," said Sikorsky.

She also points to the complicating fact that testimony from an analyst may then be restated, and sometimes misstated, by an attorney, affecting how that testimony is then interpreted by a jury.

"Once a scientist has left the courtroom, we have no control over that," she said.



Cooperation and Accountability

So how can judges and analysts work together to ensure that DNA evidence presented in court is properly analyzed and appropriately contextualized in a criminal case? With the implementation of the Daubert standard, the influence of the judge as a gatekeeper is somewhat limited by their separation from the science, and while they may seek to educate themselves and glean insight from technical experts, their responsibility only extends as far as the requirements stipulated in Daubert.

"I think that the Daubert standard is a good standard for assessing evidence. Essentially you want to make sure that the methods applied are reliable, that they're governed by standards that have been researched," said Roy. "However, I think it's important it be reliably applied to the facts and the data of the case. You could take a tool that's totally valid and defensible, and you can still apply it to data to which it does not apply. You can take a chainsaw and perform brain surgery, but it's not the right tool for the job, and so I think judges need to really be focused on each individual case and not necessarily precedent."

Collins added that, beyond ensuring that evidence was analyzed with routine adherence to FBI quality assurance standards, judges could take extra care to prepare juries for forensic testimony by providing instructions prior to hearing an expert witness or allowing jury members to submit questions about the evidence.

"I think DNA is probably at the top of the list of the disciplines that would require this the most because it's so complicated," said Collins. "Providing them with good solid instructions before they hear evidence is going to be useful."

For their part, laboratories should provide thorough written reports that communicate the limitations of the evidence and adequate training to ensure that their analysts do not inadvertently misrepresent findings in testimony.

DNA Analysis Down the Road

As methods and technologies evolve, broad oversight is necessary to ensure the continued maintenance of sound forensic DNA analysis. Roy voiced strong support for centralized, independent oversight, both on a state and federal level, and pointed to a report published by the National Academy of Sciences in 2009 recommending an essential oversight body. She cited the Texas Forensic Science Commission as an example of a state-level organization that establishes procedures, policies and practices to improve the quality of forensic analysis and provides a way to report and investigate possible negligence or misconduct in forensic laboratories.

Evolving technologies will also present new challenges for DNA analysts in the courtroom. Brian Kim mentioned that rapid advances in artificial intelligence as well as new methods like probabilistic genotyping, where mathematical models help determine the statistical weight of DNA evidence, may require analysts to adapt. Communicating uncertainty in forensic DNA analysis will become increasingly important as methods grow more precise, for instance, in the case of mixed sample analysis, which Roy asserts is far less clear cut than single-source DNA profiling.

"In forensic DNA, we went from, in the 90s and the early 2000s, making source attribution statements and identifying the person who left this DNA behind, to now, where as a field we're recognizing that nothing in science is 100%," said Roy. "We should just say what the data supports and what our statistics estimate and leave it at that. We shouldn't try to make things seem like they're foolproof. This is a human endeavor, we are just people doing this work, and people make mistakes."

The shift in emphasis from expert testimony to scientific validation reflects a growing awareness of the need for transparency, accountability and adherence to scientific rigor within forensic science and legal proceedings. As the field continues to evolve, it is essential for the judicial system, forensic experts and policymakers to work collaboratively to address these complexities. DNA analysis remains a powerful tool, but its credibility and reliability must be upheld by those wielding it through ongoing scrutiny and adaptation to the changing landscape of forensic science.

Note: The views and opinions expressed by quoted sources are their own and do not necessarily reflect the official policy or position of their respective organizations.

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SANE, Jennifer Degner's Vision Realized

The Global SAK Donation Project

Written by Vanessa Lynch and Jennifer Degner

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Global Stakeholders:

Vanessa Lynch, DNAforAfrica

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Lisa Smith, University of Leicester

Innocent Makasa, National Forensic Science and Biometrics Department

Yasin Farah, Office of the Attorney General Somalia

The Global SAK Donation Project has a remarkable origin story rooted in the dedication and vision of Jennifer Degner, a Sexual Assault Nurse Examiner (SANE) at Methodist Healthcare in San Antonio, Texas, USA. A novel initiative aimed at providing evidence collection swabs and forensic nursing care for survivors of sexual assault in low-resource areas in Africa, the project's journey began when Jennifer crossed 'a path' with Vanessa Lynch, the director of DNAforAfrica during the Covid era. The two discussed the challenges faced in their respective environments during Covid, notably the shortage of Sexual Assault Kits (SAKs), a situation Vanessa told Jennifer sadly existed outside of Covid, shedding light on the many African regions where access to quality evidence collection and forensic nursing care is so often limited. Jennifer recalls her distress after the realisation of seeing how hundreds of perfectly good, unused SAK items from their 'Texas 100' SAK boxes were discarded. "Every time I disposed of the majority of sealed, unused SAK items in the trash, I realized that they were destined for landfill. But I also recognized that they could be put to use in areas in need, just as they had been during Covid when our supplies ran short," Jennifer recalls.

This stark realization was to become the catalyst that would spark a global movement, now known as the Global SAK Donation Project. "I just had to find a way to get these valuable supplies to Africa, where the need was so urgent!" In response to Jennifer's idea to repurpose these discarded items and donate them to regions in Africa, Vanessa wasted no time in rallying together a team that would later lay the foundation for the Global SAK Donation Project.

Spanning three continents, the GSD project aimed to stockpile sealed and unused SAK items saved in Texas and find a way to transport them to Africa, where they would distribute them to rape crisis centres in need. The team understood that specialised forensic nurses and doctors would need to oversee the proper collection of samples, and the collected evidence would also need to be analysed and tracked for quality assurance purposes in DNA labs. This end-to-end process would further need to be meticulously documented as part of a research study: enter Prof. Lisa Smith, a Criminologist at Leicester University, UK, known for her work in similar studies in Kenya in the past. When the GSD project was proposed to Lisa, she quickly agreed to join the study which would examine the impact of quality DNA samples on the justice system and survivor confidence in Africa.



Vanessa Lynch and Jennifer Degner discuss how the Global Sexual Assault Project was born, successes so far, and what you can do to help.

Zambia's Commitment: Over 5000 Swabs, 2500 Drying Boxes, 113 Speculums, and 7000 Evidence Seals and Envelopes received in Zambia to date

The first two shipments of SAK items successfully reached Lusaka, Zambia, this year with Innocent Makasa, Ag. State Forensic Analyst at the National Forensic Science and Biometrics Department in Zambia, leading this pivotal phase of the project. Innocent is responsible for documenting the distribution of the swabs and recording them when received back at the laboratory for testing. "The quantity and quality of the samples will be a good indicator of the success of this project," says Vanessa. "Zambia has been a crucial partner in the Global SAK Donation Project, as it has demonstrated unwavering commitment to this initiative by stepping in to assist with transportation costs, proper documentation, and a commitment to forensic nurse training."



The team at the Zambia FSL



Inventorying items in Zambia

Somalia Joins the Cause: Preparing to Receive 125 Sealed SAK Boxes

The Global SAK Donation Project's ripple effect of positive change continues to expand its reach, with Somalia now actively participating in this transformative initiative. In a heartening development, Somalia has joined the cause and is poised to receive 125 sealed SAK's. These Kits contain a diverse array of SAK items, generously donated by Palm Beach County Sheriff 's Office Crime Lab which had heard of Jennifer's efforts in Texas. This additional contribution represents a crucial step towards enhancing the capacity for evidence collection and forensic nursing care in Somalia, a region where these resources have been historically scarce. It's a testament to the project's growing influence and the global community's commitment to change. "Somalia's involvement highlights the project's potential to catalyse positive change on a global scale, one SAK at a time," says Jennifer.



Yasin Farah, Office of the Attorney General Somalia.

Community Involvement and Ongoing Success of the Global SAK Donation Project

The GSD Project's journey towards transforming the landscape of evidence collection and forensic nursing care for survivors of sexual assault extends an open invitation to communities worldwide. The project recognizes that its strength lies not only in the dedication of its core team but also in the support and engagement of concerned individuals and communities. "Their involvement can make a significant difference in this mission. Whether through monetary donations, volunteering, or spreading awareness, every effort brings us closer to the goal of expanding access to quality evidence collection and care for survivors in regions in need across Africa. As we look to the future, there are essential aspects of the project that deserve attention. Expanding the project's reach to cover more regions in Africa is a priority, as is fostering partnerships with organizations and individuals who share the same commitment to combating sexual violence," says Vanessa.

Jennifer's vision was for the project to extend quality evidence collection and forensic nursing care to many more individuals in regions in need. "My hope is that with increased donations and support, we will see more regions in Africa receiving supplies and training, ultimately making a difference on a larger scale throughout the region" she says.



Vanessa and Lisa Smith at Leicester Court, where Colin Pitchfork was previously tried and convicted.

Supporting the Global SAK Donation Project: How You Can Make a Difference

There are several meaningful ways in which individuals and organizations can contribute to the success of the Global SAK Donation Project:

Financial Donations: Consider making a financial contribution to the project which will help fund essential aspects of the initiative, such as transportation (courier costs), distribution, and the creation of training resources.

Medical Institutions: Hospitals and healthcare facilities can play a crucial role by redirecting unused sealed SAK items to the project. By doing so, they can ensure that these valuable resources find their way to regions where they are desperately needed.

Training Video Funding: One of the ongoing needs of the project is the creation of a high level training video for forensic nurses. Donations towards this specific initiative will help develop a comprehensive training resource that can empower healthcare professionals and forensic experts in providing quality care and evidence collection.

This ongoing partnership showcases the strength of global collaboration and highlights the potential to significantly enhance the availability of quality evidence collection and forensic nursing care for survivors of sexual assault. The world watches with anticipation as the Global SAK Donation Project continues to progress, proving that when dedicated individuals come together, they can create lasting change and provide hope in the face of adversity. For updates and further information on the Global SAK Donation Project, you can follow their journey on Instagram and stay informed about this inspiring initiative.

For more information visit:
https://www.dnaforafrica.com/globalsakdonationproject

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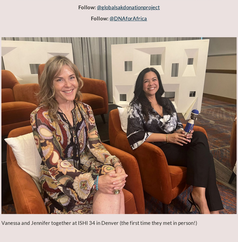
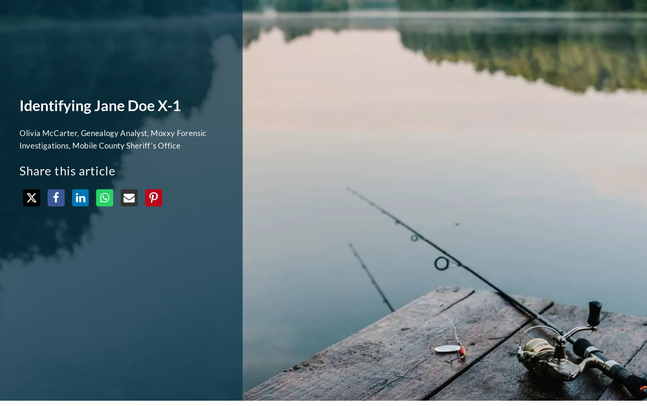


Vanessa and Jennifer together at ISHI 34 in Denver (the first time they met in person!)



Identifying Jane Doe X-1

Olivia McCarter, Genealogy Analyst, Moxxy Forensic Investigations, Mobile County Sheriff's Office

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May 18th, 1976 was a warm day in Grand Bay, Alabama. Two teenage boys headed out to Session's Creek with plans to go fishing when they instead discovered the discarded remains of an elderly female wrapped in trash bags. She had been shot in the back of the head, horribly beaten, and her hands were missing, having been haphazardly severed. To deter identification of the woman, her dentures had been removed from her mouth.

The Mobile County Sheriff's Office and lead investigator, Det. Willie "Cookie" Estes, exhausted all available resources that were available to them during this time. Without fingerprints and dentals, they turned to the local media, with hopes that showing the woman's face would spur recognition.

During the late 1970's, the small town of Grand Bay, Alabama, near the Alabama/Mississippi border, had a population of around two thousand people. News of the heinous murder ran rampant; however, no one recognized or came looking for her.

With no leads, she was given the name "Jane Doe X-1" and released to the Anatomical Donations Program at the University of South Alabama, where she was eventually cremated in 1979 and the case went cold.

Fifteen years later, in 1994, the remains of another elderly female were found in a different creek in Grand Bay. The woman had been beaten to death with a mop handle and, like Jane Doe, her hands had been severed. She was weighed down to sink in the water.

Unlike Jane Doe, she was quickly identified as Erma Williams, a woman in her late eighties missing from Moss Point, Mississippi, just on the other side of the Alabama/Mississippi state line. A tip came into the Mobile County Sheriff's Office from the girlfriend and next-door neighbor of Erma's son, Henderson "Jim" Williams.

The girlfriend stated that Jim admitted to her that he had killed his mother and dumped her body in a nearby creek. When the police arrived at Jim's residence, they discovered a fire still smoldering in the backyard with his mother's burnt hands found among the ashes.

Jim was quickly arrested. Authorities in both Mobile County and Jackson County, Mississippi, questioned Jim regarding Jane Doe's murder from two decades prior. Instead of denying the murder, Williams refused to talk. He was placed in the Mississippi State Penitentiary where he died in 2010, seemingly taking Jane Doe's identity with him to the grave.



Ada Fritz and her husband, Elmer Schubert.

Photo circa 1960's

In 2021, the Mobile County Sheriff's Office hired me to look into some local cold cases. When reviewing the files, I came across Jane Doe X-1's case, which stuck out, because she had been found in my hometown of Grand Bay and had been released to my alma mater, the University of South Alabama.

I was born in 2001, long after Jane Doe had died, but I had heard stories of her. People in my small town still talked about her, wondering why no one had ever come forward with her identity. I badly wanted to help her regain her identity, but there seemed to be no way to identify her without fingerprints, dentals, or a body to get a DNA sample from.

This all changed when a ceramic dental mold was discovered. The dental mold had been shoved into Jane Doe's mouth, even though the woman had no teeth. It was found tucked away in an evidence box for another case. I didn't expect it to have viable DNA to use and suspected that any DNA that was found would likely be contaminated as investigators didn't wear latex gloves back when the mold was created. Yet, there appeared to be dead skin embedded in the mold.

After a failed attempt at swabbing the mold, the Mobile County Sheriff's Office sent the dental mold to a non-profit laboratory in Salt Lake City, Utah. Danny Hellwig of Intermountain Forensics and I had discussed what to do with the mold, when Danny suggested that M-Vac™ testing be tried. It was a long shot, but it was worth a try.

The M-Vac™ system uses wet-vacuum principles to allow DNA material to be collected from porous areas that are difficult to reach otherwise. DNA free buffer is sprayed directly onto the surface, while at the same time, a vacuum is applied around the spray pattern to create a "mini-hurricane" to collect the buffer with the suspended particles. These are then transferred into a sterile collection bottle, poured through a concentration filter, and that filter sent to the lab for further processing.

Ultimately, 145 nanograms of DNA was extracted from the MVAC filter. It was degraded but not contaminated. Whole-genome sequencing commenced, and a raw data profile was produced by Intermountain Forensics. Moxxy Forensic Investigations, a company I co-own, was hired to perform the genealogical research. Although she was found in a small town with very little visitors, Jane Doe showed ancestors in the northwestern United States.

After nineteen days of genealogical research, Moxxy Forensic Investigations identified Jane Doe as 61-year-old Ada Elizabeth Fritz. Ada Fritz was born to Edgar and Verna Fritz in September of 1914, the youngest of two children. She grew up in Sheridan, Wyoming, before marrying Elmer Schubert and moving to Portland.

Ada's relatives described to investigators going to visit with "Aunt Ada" and "Uncle Elmer" in Portland during the summers. Ada was an avid fisherman and loved to hunt. When Elmer passed away in 1969, Ada stayed in Portland, later retiring from the Oregon State Hospital. Ada later remarried to another man in 1975, just six months before her demise.

Ada was last known to live in Batesville, Arkansas. She was in the process of leaving her abusive husband when she must have traveled to the Gulf Coast where she ran into Jim Williams.

Because of the dedicated and devoted investigators that the Mobile County Sheriff's Office has had over the last forty-seven years, the Ada Fritz homicide is officially closed.

'Ada's case held some unusual challenges. However, by combining cutting edge technologies and an exceptional team unafraid of finding inventive solutions, we were able to overcome these obstacles to her identification. It's an absolute honor for our laboratory to be a part of such a remarkable team and to add our efforts to reclaim Ada Elizabeth Fritz's name for herself and her loved ones. It is our hope that this case can highlight innovation and teamwork in making a real difference to provide answers to these long-standing mysteries", says Danny Hellwig, whose idea to try MVAC testing as a last-ditch attempt to identify Jane Doe paid off. Through teamwork and creativity, Ada Fritz's name is now known, and she can finally be at peace.

When people ask me why I got into cold cases and investigative genetic genealogy, I usually give a basic answer of "I was just interested in it', however, the real answer is that when I was younger, I genuinely felt that I had no purpose and that life did not have any meaning. Once I found that I had the ability to help people who have lost all other hope, I found my purpose. I have spent most of my career looking for this woman and her family. Even though I have never met this woman and likely would have never crossed paths with her if she wasn't killed, I care deeply about her. Being able to solve a case that everyone, including myself at one point, deemed "unsolvable" and that case being from the town that my family helped build is an incredibly emotional feeling. From the bottom of my heart, I thank everyone who has every laid their hands on this case--the original investigators who have long passed away, the investigators who trusted a twenty-one year old kid with a very old cold case, Intermountain Forensics, M-vac™ Systems, and our team at Moxxy Forensic Investigations. Because of all of these people coming together, we were able to identify Ada Fritz and tell her story and tell the world who she was--a kind, gentle-hearted woman who loved her family with all of her heart.

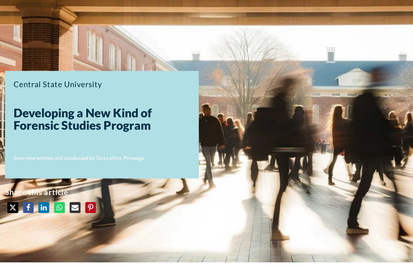


Ada Fritz pictured with her older brother. Photo likely circa 1940's.

Central State University

Developing a New Kind of Forensic Studies Program

Interview written and condensed by Sara Luther, Promega



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Utilizing a National Science Foundation grant, Central State University will be enhancing several programs in the Department of Social and Behavioral Sciences over the next three years, including the introduction of a Forensic Studies minor.

Genevieve Ritchie-Ewing, an assistant professor of Sociology and Anthropology at the university headed the grant application and is guiding the development of the minor, including the creation of the classes.

We spoke with Genevieve to learn more about the new minor.

Can you please tell us a bit about your background and how you came to be an assistant professor at Central State University?

I received my B.S. from Millersville University in Millersville, Pennsylvania. After graduation, I did some work with wild animals in Florida, but ultimately decided that I wanted to focus on humans instead of other animals.

I always had an interest in forensics so after researching my options, I chose a graduate program in anthropology at the University of Tennessee (UT) in Knoxville where I could learn forensic anthropology. My thesis work at UT focused on human decomposition as UT is home to the famed Anthropological Research Facility, a human decomposition research facility created by Dr. Bill Bass (often called "the Body Farm" although the anthropology program at UT doesn't support this name). For my thesis, I compared human decomposition in indoor and outdoor environments.

After graduation, I accepted two positions, one as a crime scene technician at the Tennessee Bureau of Investigation (TBI) and the other as an autopsy technician at the Knox County Medical Examiner's Office. Through TBI, I learned how to process a crime scene including proper documentation and evidence collection techniques.

While working in Tennessee, I met my husband, Chris, who was working at Wright Patterson Air Force Base near Dayton, Ohio. I decided to leave TBI, move to Ohio, and pursue my PhD in anthropology at the Ohio State University under the direction of Dr. Barbara Piperata. My dissertation research focused on medical anthropology rather than forensic anthropology.

In 2018, while finishing my dissertation, I started teaching classes as an adjunct at Central State University (CSU). A full-time, tenure-track assistant professor position in the Sociology program opened up in 2019 around the time I was completing my PhD. The Sociology program is part of the Department of Social and Behavioral Sciences. The department chair at that time, Dr. Lynn Rigsbee, in particular, was very interested in my multidisciplinary background and my training in forensics because he felt it would help me create curricula that would be beneficial to all of the programs in the department. I officially received assistant professor position in the fall of 2019.



Please share more about the Forensic Studies minor that you're spearheading at Central State.

The Forensic Studies minor is a multidisciplinary minor that focuses on the social science forensic fields such as forensic psychology, forensic anthropology, and forensic social work. Central State already has a Forensic Science minor in the Chemistry program that teaches students the skills they need to work in a forensic laboratory. The Forensic Studies minor is for students who want to work in other aspects of forensics.

It gives students a base of forensic knowledge through a forensic science course in Central State's Chemistry program and a crime scene analysis course in CSU's Criminal Justice program. The other two required courses are Introduction to Criminal Justice and the Sociology program's Social Problems course. Students then choose one DEI elective to build on the information in the Social Problems course and two electives that allow them to specialize their forensic knowledge in a particular social science such as psychology.

What drove you to create this program?

As I mentioned above, the Chemistry program at CSU already had a Forensic Science minor, but I didn't feel that the chemistry minor captured the social science forensic fields. Since my own interest in forensics came through the social sciences, I wanted to offer opportunities for the students in my department to explore these fields.

As Central State is an underfunded HBCU (historically black college/university), I also felt our students lacked access to the expensive materials and equipment needed in forensic work that other universities were more likely to possess. Creating this minor gave me the chance to apply for grant funding not only for the minor, but to fund a forensic laboratory as well.

Lastly, I believe that the social sciences, particularly sociology, psychology, and anthropology, are overlooked STEM fields and I wanted to shine a spotlight on these fields. The National Science Foundation often considers these fields as STEM fields, so I searched for grant opportunities there first. The National Science Foundation kindly funded our efforts with a nearly $400,000 grant through the HBCU-Undergraduate Program Targeted Infusion Project program.

You have had a diverse career path from working at the Anthropological Research Facility (ARF) to working as a crime scene technician and an autopsy technician. How do you feel that working in those varied areas has benefitted you and made you more well-rounded?

Throughout my academic and working careers, my research and interests have always been interdisciplinary. I drew on my background in biology and anthropology as well as incorporated theory and methods from psychology, sociology, geography, and other fields for my dissertation research and more recent publications and conference presentations. I feel like this has given me the ability to see problems and issues from multiple perspectives and understand where others are coming from more easily.

In forensics, working at ARF, as a crime scene technician, and an autopsy technician similarly has shown me multiple perspectives over the wide range of forensic fields. Many times forensics is equated only with forensic laboratory work that relies heavily on chemistry and biology. My background includes forensics in many contexts, which is one of the reasons I developed the Forensic Studies minor.

Will you be incorporating any elements from your past into the new Forensic Studies minor?

Absolutely. I will be incorporating many elements from my past into the new Forensic Studies minor. One of the required courses is my Crime Scene Analysis course, which draws on my training and experience as a crime scene technician at the Tennessee Bureau of Investigation. I also am developing a Forensic Anthropology course as an elective for this minor. I'm using the academic knowledge of osteology and human variation I gained as part of the M.A. program at the University of Tennessee as well as my training at ARF to develop that course.

One of the key focus areas in the new minor is evidence collection. Why was this important to you to include? How does this differ from other programs available to students?

Evidence collection is a vital and often overlooked component of crime scene processing. Collecting evidence properly preserves the evidence needed for arrest and prosecution. Showing students how to collect and handle evidence properly prepares them for many forensic fields. Forensic social workers, for example, need to know how to advise victims in a way that preserves evidence and avoid contaminating evidence themselves. Focusing on evidence collection also quickly dispels myths about crime scene work. Processing a crime scene is a time-consuming, detail-focused task. Many students (like the rest of the public) see crime scene processing on television and in movies. Those portrayals are misleading and students who want to pursue forensic fields need to know the truth about how those fields function.

Similarly, how will the differing curriculum benefit the students graduating and the field as a whole?

I think I mostly answered this question in the last question, but I would like to add that students are much more likely to have successful careers if they have a realistic sense of what the job they have chosen entails. This is true for any career, but since forensics is seen often in the media, I believe students are more likely to have misconceptions about what working in forensics is truly like. Hiring new employees with a clear understanding of how important, detail-oriented, and sometimes tedious forensic work is helps the field in multiple ways by making retention easier and mistakes less likely to happen.

Another highlight of your program is the focus on diversity, equity, and inclusion. How will you be incorporating this for students and why did you feel it was important to explore?

I incorporated DEI in two ways. First, one of the required courses is a Social Problems course. This sociology course focuses on social problems in nationally and internationally from multiple perspectives. It highlights several types of inequality (gender, racial, socioeconomic, etc.) and shows how inequality affects social problems. Second, students have to choose one DEI elective from several courses such as a social work course on social and cultural sensitivity and a sociology course on race and ethnic relations.

I felt it was important to add in a DEI component because DEI is an integral piece of social sciences like sociology and anthropology. I also developed this minor for an HBCU (historically black college/university). Central State students are more acutely aware of inequality because they frequently face discrimination on a daily basis. Giving them a better understanding of DEI helps them not only deal with the lack of diversity they are likely to see in their forensic jobs, but also gives them the skills needed to work with a wide range of people.

What is the current state of DEI within the forensic field in your opinion? How do you hope to see the field grow in this area in the next five or ten years?

Like many STEM fields and law enforcement jobs, forensics lacks diversity in multiple senses of the word. The result of this is a reduced ability to understand the impact of different perspectives on forensic work. Many forensic jobs also involve frequent interactions with the public. Without having a full range of diversity in these jobs, communities are less likely to trust and assist forensic personnel and forensic personnel are more likely to harbor biases and misconceptions. Lastly, having more people with an understanding of DEI in a field helps make adding diversity easier. Underrepresented populations feel more included and are more likely to stay in those careers as a result.

Our keynote speaker this year focused on trauma and resilience, and it continues to be a topic of importance within the field. In your past professions you must have dealt with some incredibly challenging situations. How did this affect you? What do you tell your students to prepare them for what they might encounter in the future?

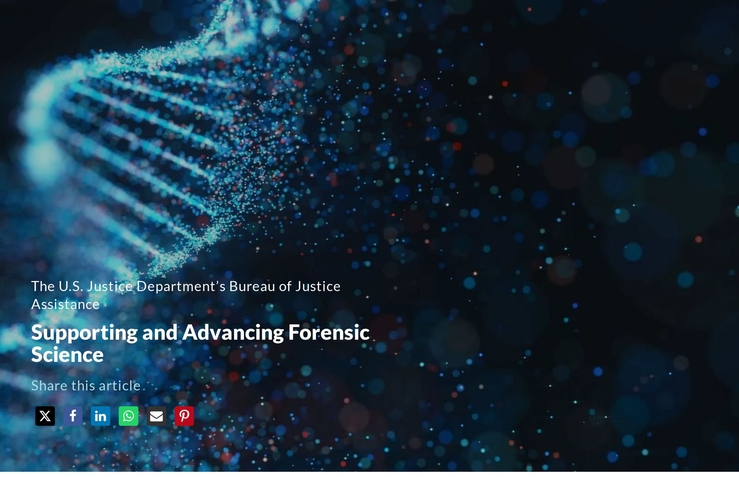
I did deal with several challenging situations in many of previous professions. Focusing on the work is usually what helped me through these situations. Knowing that the work I was doing was an important part of solving crimes and preventing further crimes mattered. Having said that, I eventually decided to focus on live people rather than dead people for a reason. I'm honest with my students about how difficult it can be seeing the results of violence on a regular basis, I want them to know that up front because as I said they need to enter these fields with their eyes wide open.

How can potential students learn more about your program?

Students interested in the Forensic Studies minor are welcome to contact me directly (gritchie-ewing@centralstate.edu). Currently, this minor is only available to Central State University students, so they would have to be admitted into the university in order to declare the minor. There are future plans to create a forensic certificate that combines the Forensic Sciences minor currently in our chemistry program with the new Forensic Studies minor. The certificate would be available to law enforcement professionals and other interested parties without the requirement to become a full-time student at Central State.

Is there anything else you'd like to include that we've missed?

I would like to acknowledge the efforts of Dr. V. Paula Redman in the CSU Criminal Justice program and Drs. Leanne Hiry and Suzanne Sebeen in the CSU Chemistry program. While I am spearheading this program, we are working together to create this new minor and several forensic courses including Forensic Anthropology, Forensic Psychology, Forensic Social Work, and Crime Mapping.



The U.S. Justice Department's Bureau of Justice Assistance

Supporting and Advancing Forensic Science

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For 40 years, the awful truth about Joe Michael Ervin lay buried with his body.

Long after he took his own life and was interred in an obscure Texas grave in 1981, people only remembered Joe Michael Ervin for shooting and killing a police officer. But it wasn't until 2022, when his body was exhumed and a DNA sample confirmed decades of cold case investigative work, that everyone learned Ervin was even more violent and deadly than anyone had suspected.

Joe Michael Ervin died an unknown serial killer. In the late 1970s and early 1980s, Ervin sexually assaulted and murdered four women in and around Denver, Colorado. His victims had almost nothing in common, and at the time, law enforcement agencies investigating the cases had no idea the crimes were related. Not even after Ervin shot and killed a Denver-area police officer and committed suicide in jail had he been linked to any other murders.

How, after so many years, was the truth about Joe Michael Ervin uncovered? It took old-school police work, cutting-edge forensic science and the combined efforts of law enforcement agencies in Texas and Colorado. It also took a helping hand from the U.S. Department of Justice's Bureau of Justice Assistance (BJA).

Through its Prosecuting Cold Cases Using DNA grant program, BJA provided money and technical expertise that supported the Ervin investigation and, after 40 years, brought justice to his victims and their families.

BJA supports initiatives that identify human remains, prosecute cold cases using DNA, process backlogged sexual assault kits, exonerate the innocent, and strengthen local medical examiner and coroner's offices. In fact, BJA awarded almost $300 million in forensic science grants in fiscal year 2023.

Through a network of training and technical assistance providers, BJA also provides guidance on how to make forensic science programs successful. And the head of BJA's forensics unit, Dr. Angela Williamson—an internationally recognized forensic scientist—often advises on cases being investigated with BJA support.

That's what happened with Joe Michael Ervin. As DNA technology developed and matured, detectives from the Denver Police Department's cold case unit retested evidence from the four unsolved murders and discovered that all four were committed by the same person. But they could not match the killer's DNA to anyone in the Federal Bureau of Investigation's (FBI) national DNA database.

Then in 2022, Detective Kari Johnson applied a new investigative technique called forensic genetic genealogy. With funding from BJA, Johnson's cold case team used publicly available ancestry databases to identify people who were distant relatives of the unknown killer. Through months of painstaking investigation, they identified a family match in Texas—and the possibility that the crimes were committed by Ervin.

To confirm that Ervin was the killer, they needed to exhume his body, which was buried in Texas. But the BJA grant Detective Johnson's team was using did not cover exhumations.

However, BJA had awarded a different grant to the Texas Rangers that could pay for exhumations. Dr. Williamson connected officers from the two different law enforcement agencies, and they worked together to complete the investigation. This was the first time that two separate BJA grants had been used to solve a single case.

The case had a profound impact on Detective Johnson and her team. "A lot of people have asked, 'What does this feel like?' And there's such a variety of responses I could give, and emotions that come attached to them," she said. "The biggest one is telling these families that have waited 40 years, who had given up hope and had thought they would never find answers about what happened to their loved ones. Having those personal conversations with them, it's life-changing in so many ways."

"But there are so many important cases," Detective Johnson added. "Utilizing these grants that BJA awarded us, my partner in the cold case unit made an arrest on a kidnapping sexual assault. So, I'm excited about being a part of this generation of investigator where these things are available to us."

The Ervin case is just one of many substantial accomplishments that have resulted from work funded by BJA grants. Others include:

- BJA's Postconviction Testing of DNA Evidence Program, which began in 2007, has awarded $83 million to law enforcement agencies in 30 states, which have used these funds to review more than 175,000 cases. Of these, 62 convictions in 17 states have been overturned.

Exonerations of wrongly convicted people frequently generate national headlines. The thousands of DNA case reviews that confirm the guilt of those who were convicted attract virtually no attention, but they also ensure that justice was fairly administered.

- The Missing and Unidentified Human Remains Program, launched in 2022, has awarded more than $13 million to 19 recipients, including medical examiners and coroners, law enforcement and DNA laboratories. This money has been used to inventory missing persons and human remains, return remains to appropriate relatives and identify 130 bodies.

According to the Justice Department's National Missing and Unidentified Persons System, more than 600,000 people go missing in the U.S. annually, and an estimated 4,400 unidentified bodies are recovered every year.

- The National Sexual Assault Kit Initiative (SAKI), launched in 2015, has supported widespread efforts to inventory, test, and track about 200,000 sexual assault kits and other crime scene evidence. Over the past eight years, SAKI has awarded more than $300 million to forensics agencies nationwide. Currently there are more than 80 SAKI grant recipients in 46 states.

In just one locality—Wayne County, Michigan, which surrounds Detroit—SAKI has helped investigators identify more than 800 suspected serial sexual offenders and obtain 170 convictions. Suspects identified by the Wayne County SAKI program have been connected to cases in 40 states.

- BJA's DNA Capacity Enhancement through Backlog Reduction (CEBR) Program, which began in 2000, has supported DNA testing in more than 1.5 million cases. CEBR funding has also led to more than 600,000 individual DNA profiles being uploaded into the FBI's national DNA database.

- Two BJA programs provide financial support to state and local forensic science agencies: the Paul Coverdell Forensic Science Improvement Grants Program and the Strengthening the Medical Examiner-Coroner System Program.

The Coverdell Forensic Science Improvement Grants Program is more than 20 years old and currently provides more than $30 million annually to forensic science agencies. Since 2017, the Strengthening the Medical Examiner-Coroner System Program has funded 44 medical examiner fellows who have conducted approximately 6,000 death investigations.

- BJA's Prosecuting Cold Cases Using DNA Program began in 2019 and has awarded $28 million to about 50 localities. The funds can be used to support not only forensics and DNA-related activities but a wide range of cold case investigation techniques and prosecutorial support.

The Prosecuting Cold Cases program has led to the identification of 52 previously unknown suspects and resolved orclosed48 cases. For example, the program funded an investigation that led to the conviction of the man who raped and murdered 15-year-old Karen Stitt in Sunnyvale, California more than 40 years ago.

Even though forensic science is changing rapidly, BJA works to ensure that the agency's grant programs can be used to fund advanced investigative techniques. In the Joe Michael Ervin case, that meant supporting Denver investigators who used forensic genetic genealogy.

"We can help people leverage their grant money to get the maximum benefit," Dr. Williamson said. "And we can sponsor trainings that help people take advantage of the technology that's out there."

To learn more about BJA's forensic science programs and funding opportunities, including grants available to your organization, visit the BJA website: https://bja.ojp.gov/topics/forensic-sciences.

Advertorial

University of Florida Forensic Science Online Graduate Program

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Are you ready to be a leader in Forensic Science? Apply to join the world's most extensive forensic science program at the University of Florida!

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The interactive class format allows you to network with forensic professionals from around the world. At UF, you'll join a network of faculty and students with diverse backgrounds.

Learn alongside students with careers working in:

- crime laboratories
- medical examiner offices
- law enforcement agencies
- criminal defense and prosecution practices
- hospital and clinical chemistry laboratories
- pharmaceutical companies and private DNA labs
- teaching and academia

Don't believe it's possible? Hear from actual students who went through the program, like Joe Pasternak, M.S., a DNA Supervisor and Technical Leader with the State of Montana Forensic Science Division and Instructional Assistant Professor at the University of Florida,

"When I finished my program, I was fully eligible to become a technical leader and by a stroke of fate my technical leader at the time was offered a director position in the laboratory. I applied for and got promoted to his position. It was life-changing for me to have that opportunity."

Applications for the program are accepted year-round for spring, summer or fall courses, and the GRE is no longer a requirement for admission.



Embracing Life's Journey

Strategies for Nurturing Self-Care and Resilience

Ann MacPhetridge, Promega

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Forensic DNA analysts play a vital role in the criminal justice system, helping to solve crimes and bring perpetrators to justice. Due to the high stakes' nature of the work, it's common for forensic scientists to experience immense stress, which can lead to exhaustion, depression and health issues. Building and maintaining resilience and coping skills can help you effectively manage work related stress and trauma.

In a previous article, we discussed stress, trauma, and burnout within the forensic field and resources to learn more about the impact they have on analysts within the field.

Developing resilience takes time and practice and we at ISHI are dedicated to providing on-going support and resources for those within the community. There are several things that forensic DNA analysts can do to further develop resilience. Some helpful tips include:

Build a strong support system.

Having compassionate friends, family members, and colleagues can be invaluable when dealing with stress and trauma. These people can provide you with emotional support, practical help, and a listening ear. Offer support to others in return. Feeling connected helps combat the loneliness and isolation that often comes with high pressure work.

Prioritize your wellbeing.

Take care of yourself physically. Eating a healthy diet, getting regular exercise, and getting enough sleep are all important for maintaining your physical and mental health. Engage in relaxing activities such as reading, meditation, or spending time with friends and family.

Don't let work consume you. Set boundaries and learn to disconnect after work hours. Use your vacation time and take regular breaks during the day. Breaks are essential for staying focused. I've also learned to give myself grace when things don't go as planned. Nobody's perfect.

If you're involved in a complex project such as the validation of a new instrument or kit, work with others to break the project into smaller, attainable tasks. I find it helpful to set daily and weekly goals to give myself a sense of control and accomplishment. And be sure to celebrate even the small wins!

Develop healthy coping mechanisms.

There are a number of healthy coping mechanisms that can help you to manage stress, such as relaxation techniques, yoga, mindfulness, and journaling. Spend time outside every day. There have been numerous studies about the benefits of being outside for 30 min a day to help combat stress and build resilience. You can read more here.

As Eckhart Tolle said, "We depend on nature not only for our physical survival, we also need nature to show us the way home, the way out of the prison of our own minds." One of my favorite things to do after a particularly stressful day is to take my golden retriever to the dog park. Seeing the sheer joy on his face as he greets other dogs and runs free in the sunshine reminds me to live in the moment and enjoy the little things.

Seek professional help if needed.

If you are struggling to cope with stress or trauma on your own, don't be afraid to seek professional help. Seeking counseling doesn't mean you can't handle the work—it means you value your mental health. A therapist can provide you with support and guidance as you work to develop resilience.

In addition to the general tips above, there are a few things that forensic DNA analysts can specifically do to develop resilience:

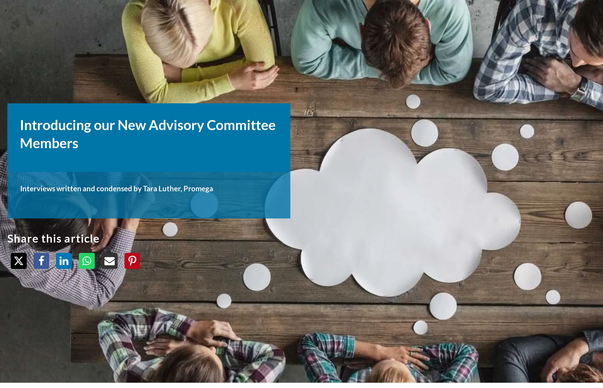
- Practice gratitude. I know, it seems cheesy, but it works. If you're feeling stressed, stop for a moment and think of 3 things you are grateful for. Your brain can't focus on the negative while it's practicing gratitude. This practice can help you maintain a healthy perspective when feeling overwhelmed. Your list can be as simple as 1) the line at Starbucks was shorter than usual, 2) the parking gods smiled on me this morning, or 3) my work bestie texted me a hilarious meme about cats. Try it for 10 days and see if your outlook and stress management skills get a boost.
- Talk to other analysts. Talking to other forensic DNA analysts who have been through similar experiences can be a great way to get support and advice. Mentor less experienced analysts, but also use senior analysts as resources—support each other through teamwork.
- Take advantage of resources offered by your workplace. Many workplaces offer confidential resources to help employees manage stress and trauma, such as employee assistance programs (EAPs) and support groups.
- Become involved in the forensic DNA community. Getting involved in the forensic DNA community can help you to feel connected to other professionals in the field and to learn about new resources and support services.

By following these tips, forensic DNA analysts can develop resilience and thrive in their demanding but rewarding profession. Building resilience takes time, but the payoff is worth the effort. The ability to thrive under pressure and finding purpose can help you stay engaged, a key success factor in the work world.

I found this website to be a great resource for learning how to build resilience and meaning: https://greatergood.berkeley.edu/. The Greater Good Science Center at the University of California-Berkeley studies the psychology, sociology, and neuroscience of well-being and teaches skills that foster a thriving, resilient, and compassionate society.

Sources

vitaldollar.com/independently-wealthy/



Introducing our New Advisory Committee Members

Interviews written and condensed by Tara Luther, Promega

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The ISHI planning team is excited to announce the newest members of our Advisory Committee. The committee was formed to steer the content and format of the annual symposium to reflect the interests of the diverse stakeholders in the forensic science community.

As we embark on this next chapter, we first want to extend our deepest gratitude to our departing Advisory Committee members. Their dedication, insight, and invaluable contributions have been fundamental to our success and growth. The time, energy, and wisdom they have invested have left a lasting impact, and we are deeply appreciative of their efforts.

As we bid farewell to our esteemed colleagues, we also warmly welcome our new members to the Advisory Committee. Their diverse experiences, fresh perspectives, and enthusiasm are eagerly anticipated. We are excited to collaborate with them and look forward to the innovative ideas and contributions they will bring to our team.

We will be conferring with the Advisory Committee throughout the planning of the ISHI conference. Together, we will continue to strive towards our shared goals and make significant strides in our endeavors. We are thankful to both the departing members and those just joining for their commitment to excellence and for being an integral part of our journey.



Dr. Rhonda Williams

Associate Professor, University of Central Oklahoma

View profile



Michelle Madrid

Senior Criminalist / DNA Technical Leader, Los Angeles County Sheriff's Department

View profile



Dr. Michael Coble

Executive Director, Center for Human Identification, UNTHSC

View profile



Julie Sikorsky

Forensic Biology Manager, Palm Beach County Sheriff's Office

View profile



Jim Thomson

Scientific Knowledge Manager, Eurofins Forensic Services

View profile

Why were you interested in participating in the advisory committee and what do you hope to contribute?

Michelle: ISHI is always one of the most interesting annual DNA meetings. The speakers cover a range of topics and I hope to contribute insight into what the community is interested in hearing and learning more about now. I also look forward to getting a firsthand look at potential presentation abstracts and workshop submissions.

Rhonda: I hope to improve the ISHI meetings and help determine content.

Mike: ISHI has been a go-to meeting for me for over 20 years and I have always had an appreciation of the hard work and dedication of the ISHI team to keep their focus and provide the forensic DNA community with the highest quality program each year. When I was asked to participate in the advisory committee, I didn't have to think twice. I am honored to be able to "give back" to ISHI and the forensic DNA community by working with my colleagues on the advisory committee to continue the outstanding quality of conference.

Julie: I was interested in participating in the ISHI Advisory Committee because I was excited by the prospect of helping to shape the content of future Symposiums. I hope to bring my experiences as a DNA caseworking analyst and forensic biology manager to the committee; leveraging the opportunities I've had and relationships I've built throughout my career to help identify the most relevant and timely topics (and challenges) facing forensic biologists today.

Jim: The advisory committee offers a great opportunity to get close to the exciting developments across the full spectrum of forensic genetics and genomics. I hope that my long history and experience in an operational laboratory environment focused on efficient delivery of many of these methods to our police customers will help the committee to prioritise areas of most direct value to the end-user and the justice system.

How many ISHI meetings have you attended and in what capacity?

Michelle: Too many to count! I'd guess I've probably attended close to 10 ISHI's but don't hold me to that! Typically, I've attended as a participant but at this last ISHI in Denver, I was one of a few presenters for a workshop on our Human Factors Working Group.

Rhonda: I have been to 6 ISHI meetings in my career.

Mike: I believe my first ISHI meeting was back in 1999. I have been fortunate to attend ISHI nearly every year with the exception of missing a meeting or two along the way. I was in my third year of my PhD program and was working on my thesis at AFDIL. It was such a great meeting to have everyone focused on DNA. A year or so later, I gave my first presentation in a workshop on my thesis research with mitochondrial DNA. More recently, I have had the honor to chair workshops at ISHI.

Julie: I have attended nine ISHI meetings since 2008 in varying capacities, from regular attendee to workshop chair and mainstage speaker.

- 2023 – attendee, workshop presenter, poster
- 2022 – attendee, workshop presenter, plenary speaker
- 2021 – attendee, workshop chair
- 2019 – attendee, moderator
- 2017 – attendee, poster
- 2015 – attendee
- 2013 – attendee
- 2012 – attendee, workshop speaker and speaker at TL meeting
- 2008 – attendee, speaker at interesting cases breakout and TL meeting, poster

Jim: Sadly, I have only managed to attend a few meetings in the past. I still remember my first, in 1992 in Scottsdale, Arizona as a junior scientist on my first trip to the USA! My most recent ISHI was Dallas in 2015 when I was lucky enough to be able to present our work on the identification of Australian soldiers found on the site of the 1916 Battle of Fromelles using mitochondrial and Y-chromosome markers – a challenging and very moving project and a great tale to tell.

What is your favorite thing about the conference? Do you have any memories from a past ISHI meeting that you'd like to share?

Michelle: The people, by far! ISHI is always a great chance to catch up with people you may only see once per year. Of course, the evening receptions and off-site events are always a highlight too. My most memorable moments are those that involve the perfect mix of learning, laughter, meeting new people and making new connections over a beverage, or two.

Rhonda: My favorite event ISHI experience is always the big party. I recall having a great time at the Red Rocks Vegas event.

Mike: No matter the location or venue, ISHI is a place where I am able to reconnect with friends all over the world. These connections have led to many new collaborations while chatting with colleagues at the poster sessions. I have also truly enjoyed the scientific presentations and workshops over the years. I think the opening plenary talks are truly outstanding and thought provoking. Probably one of my favorite memories was being able to meet and listen to the incredible story of Kirk Bloodsworth, the first DNA exoneration of a man sentenced to death in the US. His presentation was both extremely sad and inspiring.

Julie: My favorite aspect of ISHI is the networking. Not only are the 'who's who' of forensic biology in attendance, but the event feels like a reunion – I get to catch up with colleagues, past interns - as well as meet newcomers to the field.

Aside from my very first ISHI (Hollywood, CA), one of the most memorable ISHI conferences for me was in Grapevine, Texas when John Butler brought his lasso and showed us his trick roping prior to the beginning of a session. Thankfully I still have a video of the occasion so I can relive that moment over and over!

Jim: ISHI, and indeed Promega's smaller symposia in Europe (which I regularly attend), are great for catching up with old contacts, and always for making new ones. Being based in the UK, it is always interesting to get the slightly different perspective of the US forensic community with the subtle (or not so subtle) differences in legal systems, forensic processes and workflows and culture all playing their part.

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Dr. Michael Coble

Michael Coble, PhD, is an Associate Professor and the Executive Director of the Center for Human Identification at the University of North Texas Health Science Center in Fort Worth, Texas. Dr. Coble received his Master's Degree in Forensic Science and his PhD in Genetics from The George Washington University. He is a Fellow of the American Academy of Forensic Sciences and a member of the International Society for Forensic Genetics. He serves as a commissioner of the Texas Forensic Science Commission and is an invited guest at the Scientific Working Group on DNA Analysis Methods (SWGDAM). He is a co-editor of the Forensic Biology subject area of WIREs Forensic Science journal and is a member of the editorial boards of Forensic Science International: Genetics and the Journal of Forensic Sciences.



Jim Thomson

Jim has over 30 years' experience working in the fields of forensic identity testing and genotyping. He started his career at the Royal London Hospital in 1986, helping to establish the new DNA Fingerprinting techniques to support one of the first DNA-based paternity testing services in the UK.

Since 1995 he has worked for LGC and now Eurofins Forensic Services, where he is the Scientific Knowledge Manager and the Science Lead for DNA. In his time there has played a key role in establishing and supporting a number of different DNA based forensic and diagnostic services. These have included the first independent National DNA Database reference laboratory which opened in 1997 and the establishment and ongoing developments of Eurofins' crime stain and casework DNA laboratories. He leads an R&D team focused on forensic DNA projects, and his role now extends to include Eurofins forensic laboratories in Belgium, France, Germany and the Netherlands with whom he facilitates collaborations and knowledge sharing.



Michelle Madrid

Michelle Madrid is a Senior Criminalist and the DNA Technical Leader for the Los Angeles County Sheriff's Department. She has a Bachelor of Science Degree in Molecular Biology and a Master of Science Degree in Criminalistics. Michelle has worked in the Biology Section for 18 years and has played an integral role in training, and in evaluating and validating new methods. She is certified by the American Board of Criminalistics in Molecular Biology. Michelle is also part of her lab's CSI team and responds to various types of scenes including homicides, assaults, and fire scenes to assist in the documentation and collection of biological and trace evidence. She was a part of the Expert Working Group on Human Factors in Forensic DNA Interpretation which conducted a scientific assessment of the effects of human factors in forensic DNA examination and recommended approaches to improve its practice and reduce the likelihood of errors. Michelle is a member of OSAC's Human Forensic Biology Subcommittee's and serves as the Executive Secretary. In addition, she serves on the American Board of Criminalistics Examination Committee. When not working, she spends as much time as possible outdoors hiking, camping, and traveling to faraway places.



Julie Sikorsky

Julie Conover Sikorsky began her career in 2002 as a Senior Forensic Scientist with the Forensic Biology Unit of the Palm Beach County Sheriff's Office. In 2012 she was promoted to manage the Unit of now over twenty talented and dynamic individuals. Julie is currently the Chair of the American Board of Criminalistics (ABC) Credentials Committee, a member of the Criminalistics section of the American Academy of Forensic Sciences (AAFS), a member of the International Association of Forensic Genetics (ISFG), and a member of the American Society of Crime Laboratory Directors (ASCLD). Julie is active in her local Sexual Assault Response Team (SART) where she was awarded member of the year in 2019.

Julie is certified in molecular biology by the ABC and has her Lean Six Sigma Green Belt. She is a qualified ISO Assessor and has offered expert witness testimony over 100 times. Julie has numerous publications and frequently presents at meetings, conferences, and trainings. Julie serves as a peer-reviewer for forensic journals and is a member of the Advisory Board for Keiser University. Julie has a bachelor of science degree in molecular biology from the University of California at San Diego as well as two master's degrees from Marshall University in Huntington, West Virginia; one in forensic science and the other in biomedical sciences.

Julie enjoys running, yoga, food/wine, travel, reading (Audible), podcasts and of course, all things forensic and true crime.



Dr. Rhonda Williams

Rhonda Williams, Ph.D., worked in the forensic DNA field for approximately 15 years. She enjoys teaching others about the field of forensics. She previously worked at the Harris County Institute of Forensic Sciences in Houston, Texas, for eight years as a DNA analyst and crime scene analyst and in the OSBI CODIS unit for seven years.