

Just Collaboration in Forensic Research

Introduction [00:00:02] Welcome to Just Science, a podcast for justice professionals and anyone interested in learning more about forensic science, innovative technology, current research and actionable strategies to improve the criminal justice system. In episode two, of our Resilient Leadership mini Season, Just Science sat down with Henry Maynard to discuss the American Society of Crime Laboratory Directors, also known as ASCLD Forensic Research Committee. As researchers work to create better tools and technologies for the forensic science community, it is crucial that they are able to consult with practicing forensic professionals to better understand their needs and experiences. The ASCLD Forensic Research Committee includes several global programs that aim to connect forensic practitioners with academic researchers to share information and collaborate on research projects. Listen along as Henry describes how the ASCLD Forensic Research Committee helps create higher quality forensic research, how to sign up for programs within the Forensic Research Committee, and the secret for creating a great forensic science working group. This episode is funded by the National Institute of Justice's Forensic Technology Center of Excellence. Some content in this podcast may be considered sensitive and may evoke emotional responses or may not be appropriate for younger audiences. Here's your host, Ben Swanholm.

Ben [00:01:22] Hello and welcome to Just Science. I'm your host, Ben Swanholm with the Forensic Technology Center of Excellence, a program of the National Institute of Justice. We are recording at the 2023 American Society of Crime Laboratory Directors Symposium in Austin, Texas, that was themed Resilient Leadership. Today, we're going to be discussing the ASCLD Forensic Research Committee. And here to guide us in our discussion is Henry Maynard, the chair of the Forensic Research Committee for ASCLD. Welcome Henry and thanks for talking with us today.

Henry [00:01:52] Thanks for having me, Ben.

Ben [00:01:53] So first, before we get into the Forensic Research Committee, can you talk a little bit about what led you into a career in forensic science?

Henry [00:02:01] Sure. I think my family actually had a, a large impression on me wanting to get into forensic science. My grandfather, he was actually an inventor. He was a really smart scientist. He worked for the Army at a point in time and he even supported research back in the day. So from my grandfather I picked up a sense of wonder and intellectual curiosity. From my mother, she was very caring. Every day after school she would ask me, What did you do to help somebody today? So from her, I picked up the idea that it's important to serve others, to help other people. And my father, he was an Eagle Scout, he was the mayor of our small town, volunteer firefighter, volunteer EMT, chairman of the board of a local credit union. He volunteered during 9/11 in New York City's support rescue efforts and now he's actually a judge. So from my father, I picked up a strong sense of civic duty, of wanting to make my community and organization a better place. I think from the perspectives of all of these people in my life, it's shaped my thoughts and when I learned about forensic science, it felt like a natural fit. I was able to use science to help other people and make society a better place.

Ben [00:03:03] So family probably really defined and led the example of, of how you are trying to impact the forensic community. Would that be an accurate statement?

Henry [00:03:12] Absolutely. I think they each had different principles that really had a lasting impression on me.

Ben [00:03:17] You're in a lot of groups so I'm just going to name some of them just to get a perspective for our listeners. You're currently on the ASCLD Board of Directors, also part of the Strategic Advisory Board for SAFE, the FLNTWG Research Subcommittee Chair, ASCLD Forensic Research Committee. You're an instructor for the ASCLD Leadership Academy and you're the lead research scientist at the US Army Crime Lab. Did I get most of them, or is there a couple that I ended up missing there?

Henry [00:03:45] Oh, that's a lot. You got, you got majority of them. You know, I'm kind of curious, Ben, before we jump into it, how did level one go.

Ben [00:03:51] Oh, you're talking about ASCLD leadership academy level one, right?

Henry [00:03:54] Yes.

Ben [00:03:55] Yeah, I'm an instructor. Henry is also instructor of, of level two. Yeah, it went really well. It's great. You know, it's kind of like you're you're talking about with how your family influenced you and how you're impacting research. Right? I'm kind of in the same except in the leadership area of forensic science, right? I'm really involved in the ASCLD Leadership Academy, National Forensic Science Academy, certified Forensic Manager program. Right? So I'm taking all I'm taking all those path committees and then Henry, you can take all the other research.

Henry [00:04:25] So we'll split it all up.

Ben [00:04:27] Right. So how did level two end up going for you?

Henry [00:04:30] Really good. I really enjoyed working with everybody. We had a great class. There's tremendous participation. I think everyone learned a lot. You know, it's takes me back just thinking back to when I was in level one years ago, and I think that's actually where we met. I remember being really impressed with like you and Jeremy and the instructors providing that and crazy to think that all these years now you and I are teaching together in the same program.

Ben [00:04:52] Yeah, absolutely. That's one of my favorite things about working in, in forensic sciences. You know, we have the opportunity to volunteer and help the forensic science community in many different ways. So how many years have you been doing the Forensic Science Research Committee? The FRC.

Henry [00:05:09] I actually started that in 2017, and I've been actually asked to continue in the chair role since then. So I've been the chair for a little over six years now.

Ben [00:05:19] Yeah, I know we're not supposed to do math on the stand, right? But I think that, I think you ended up calculating that correctly. So you've accomplished a lot during that time. You started the Laboratories and Educators Alliance Program, or what we often referred to as LEAP, then launched the FRC Collaboration Hub. You host the evaluation and validation repository and initiated the FRC lightning talks, which have been a huge hit and very well attended. Can you share a little bit about those three initiatives? Let's start with LEAP.

Henry [00:05:51] So the goal of the Laboratories and Educators Alliance Program is to facilitate partnerships between academia and forensic science laboratories. This originally was a joint effort between the American Society of Crime Lab Directors and the Council of Forensic Science Educators to promote strategic partnerships between forensic science labs and academia to ensure high quality academic research is being aligned to address critically important challenges in the forensic science community.

Ben [00:06:16] So if I'm catching everything you're saying about it, it's really like if a lab and a university form a partnership, that's kind of what LEAP is about.

Henry [00:06:24] Yeah. So each lab in university, when they form partnership, they may have different purposes for forming those partnerships. It could be for laboratory recruitment purposes, it could help with internship opportunities. It could be a subject matter expert information exchange. We could have forensic science practitioners support curriculum development or assistance in teaching. Practitioners could actually be guest speakers or even instructors. They could collaborate on research projects, either the design, the planning, or we could even have academicians provide statistical support to help us out on validations and evaluations at the laboratory. I kind of like to think of LEAP as an expansion of your own team. So if you're in a laboratory and you have a partnering academic institution, it's like you have a deeper bench of talent that you can call upon. They may have a special skill or have an ability that you may not have at your lab, but now you can tap into that partner and leverage their capabilities and work towards a mutually beneficial research project.

Ben [00:07:18] That's a lot of great benefits about, you know, participating and engaging in the program. But I think the key to the first step of that is, is signing up. So how do I sign up? How do I get connected with this great resource that's out there?

Henry [00:07:32] Yeah. So if interested parties want to sign up for the LEAP program, all they have to do is go to the ASCLD FRC web page and if they look under the LEAP section, there be a form where you just download the form, whether you're a lab or university, and it's a simple one page form. We try to make it really easy and people will just put their name, their contact information, what they're interested in doing, if it's, what research disciplines they're looking at. And then once they receive the form, I'm going to turn around and add them to the LEAP map. Right now I think we have about 125 LEAP partners, and that's actually spanning four countries, including the United States, Canada, Australia and Saudi Arabia.

Ben [00:08:11] Well, that's impressive. I mean, even though I'm involved in the forensic community, I would have lost a bet of like how many are involved, right? I wouldn't have even close to guess 120. So that's a lot of great work that you've put in here. Plus, you know, that it's really even a global program as well. So after people sign up, what is their next step or what do you often see occurring after they sign up?

Henry [00:08:35] Sure. Once somebody signs up and they're on the map, it's kind of a platform that allows them to be seen, if you will. Other people can reach out and say, Hey, I saw that you're in Dallas. My laboratory is only 15 minutes away. Can we form a partnership? Or Hey, I see that you're doing research in drug chemistry. We have an interest then as well. Can we work together towards a specific project?

Ben [00:08:58] So as an individual that's in an administrative role in a laboratory? You know, one of the big things that I always, I guess, question, I guess when somebody from

my team brings me, Hey, I found something cool and I want to do it, right? Is so how much is this going to cost me, right? How much value is my organization going to have to put in to participate? So is there a cost to participate at all?

Henry [00:09:21] Nope, there's no cost. Every FRC initiative is completely free and publicly available.

Ben [00:09:26] You're talked about a little bit before of, you know, how many organizations are involved, 120 plus and and how it's really like relationship building and connecting people. And so when we talked about the components that make up the FRC, one of the things you mentioned was the FRC collaboration hub. Can we switch from talking about the LEAP program and then talk about the collaboration hub that exists in FRC?

Henry [00:09:51] We just spoke about LEAP and LEAP, of course, about general partnerships, whereas the FRC Collaboration Hub is about specific projects. So the FRC Collaboration Hub connects researchers and practitioners to promote active engagement and participation to support forensic science research projects. The FRC Collaboration Hub provides a one stop shop for researchers to solicit participation in specific projects and for practitioners to contribute their knowledge and experience to support research projects. So again, we're playing matchmaker to make it easier for interested parties to connect, but this time it's for very specific projects.

Ben [00:10:27] I'm sure that with that many organizations involved and for how long the FRC has been going, you've probably had some projects that that already exist or are on that hub. Do you have anything that you want to point out or talk a little bit about?

Henry [00:10:41] Sure. We've had a lot of different projects so far. We've had projects that included air raid studies in our laboratory comparisons, studies that explored in analytical thresholds or examiner interpretations. We have studies that explored cognitive bias mitigation techniques, and we've even had studies that simply asked for practitioner support on projects like serving as a SME.

Ben [00:11:00] If you are a researcher, it kind of sounds like you can really ask for a lot of different types of support. Is that an accurate statement?

Henry [00:11:10] Yeah, that's correct. We're trying to facilitate collaborations to promote the advancement of forensic science. The easier we can make it for researchers, the forensic science research, the better, as this is going to lead to more and more forensic science research projects, which will turn more and more into better tools and technologies for the forensic science community.

Ben [00:11:26] What kind of research projects are currently looking for support right now?

Henry [00:11:31] There's actually a good handful. I think there's around 15 that are currently open right now looking for practitioner support. A few of them top my head, the FBI and Noblis, they are actually conducting a research project that's the latent print examiner black box study. So they're looking for support from examiners there. There's another project. It's from Rapid Forensic Cell Typing Inc. and Virginia Commonwealth University, and they're looking for support on a new method they developed for estimating the time since deposition for trace DNA samples. We also have Dr. Gwyneth Gordon from Arizona State University. She's currently seeking support from the practitioner community

exploring forensic geology and soil evidence, specifically aiming to understand the current status and the needs of the forensic science community.

Ben [00:12:15] And so that's a lot of impressive work that you all have done. But like you mentioned earlier, it's been around for six years or so. So being that new in and having that much work is even more impressive. You know, as the chair of this committee, where do you see the future of this committee and all of the different products that are a part of it?

Henry [00:12:37] I think it's our hope that in the future this becomes the place where everyone in the forensic science community goes to learn about research projects that are currently being worked and how they can be part of the advancement of the field. You know, again, I should really highlight that all of this is free. You know, it's all publicly available. Everyone contribute. So if you're a student or a researcher from a university, if you're a forensic scientist from a laboratory or a researcher or forensic scientist from a private company or from the vendor community, you can use this platform to share information and recruit support from the greater forensic science community.

Ben [00:13:08] I know one of the support areas that the FRC houses is for validation and evaluation, like a repository for it. I know, like for our teams, like that always seems like something they're trying to figure out is what, how do I do this validation for this new product? Right? And in forensics, we're all testing it for the same thing all the time. Can you tell me a little bit more about that repository?

Henry [00:13:34] Sure. We have an evaluation in validation repository that provides a centralized location for all evaluations and validations, and that would include information about, like the validation plan, the methods, the results, the reports and data. Basically, anything a lab would like to share with greater forensic science community to help other labs implement new tools and technologies and methodologies as well. Like you mentioned, you know, each forensic practitioner at some point in their career has probably been asked to do an evaluation or a validation. I remember when I volunteered to do it in the past. I remember spending time, you know, creating the testing protocol, conducting all the testing, writing up the results, and ultimately just to use the information only for our laboratory in-house later on, come to find out other labs were doing the exact same ones as well. So with limited resources and forensic science, it seems like we could maximize our efforts by centralizing evaluations and validations and learning from each other.

Ben [00:14:29] And I think that's fantastic. I mean, I remember trying to do them myself and just feeling like I was swimming in, you know, black hole, right? I need some water wings or something like that at least. And and it makes so much sense about promoting transparency in forensic science while also saving time for our busy team members are busy forensic scientists that are doing that work instead of each person spending time trying to think through all the variables. And so now we can leverage all that existing information, existing plans and the existing data. And that's a really great asset for that forensic science community. So if you had to estimate, and maybe you actually know the real number, Right? But how many validations are in this repository now?

Henry [00:15:14] Right now we have 35 validation so far, and we're always encouraging more people to submit. Currently, the repository includes validations such as the Forenseq Kintelligence Kit, New York City OCME's internal validation of StrMix version 2.7 for Fusion 5C 3500 XL, the validation of genemarker HID software, Multidrug screening method in blood and urine by LCMS-MS, and many more.

Ben [00:15:38] So let's shift gears here. Coming out of the repository and going into things that are like actively happening or looking into the future. And one of the things you've really been spending a lot of time in, in the FRC that has been really popular in the community is the FRC Lightning Talks. Can you talk a little bit more about like when they launched, what their purpose is, and where you see it going?

Henry [00:16:03] Sure. We launched the The Lightning Talks about two years ago and we saw it as a great way to promote information sharing about emerging research and new capabilities with the greater forensic science community. Each talk involves short presentations, usually involving 2 to 3 speakers around 10 minutes each or so. These lightning talks are purposely brief so we can share ideas and spark for the discussion. So after each series, we actually have Q&A. Since we all live busy lives, we decided to post the videos online afterwards so the information sharing can continue on even after that day. So you can access all the videos online by checking out the ASCLD FRC webpage, which links to a YouTube page which has all of them so far posted.

Ben [00:16:41] So in those two years, about how many talks have you hosted and how often are they going to continue to take place?

Henry [00:16:49] So far, we've we've hosted about 23 lightning talks and our aim is to have basically one lightning talk about each month.

Ben [00:16:56] So what are some of the topics that have been covered in those lightning talks that they can find on that FRC research page?

Henry [00:17:03] We have topics in all areas of forensic science, so we've had past topics on air raid studies, forensic genealogy, cognitive bias, fentanyl signature research, forensic algorithms and artificial intelligence, drone forensics, and even exploring new topics like microbial DNA and more.

Ben [00:17:20] Those are some interesting topics. I'm guessing they've been a little on the popular side recently.

Henry [00:17:26] Absolutely. We've had participation from over 30 countries, so I think there's considerable interest in the topics and the concept overall.

Ben [00:17:32] About how many people are on your FRC committee?

Henry [00:17:36] At any given time we only have about between eight and ten people.

Ben [00:17:40] I mean, that's a pretty small committee to be managing and leading all of these, you know, really like future thinking next level, next future areas of forensic science. What's your secret of leading this group?

Henry [00:17:54] The secret? Simply great people. Each person on the FRC joins the committee with the desire to advance forensic science. This is a go fast committee with each person being responsible and having a sense of ownership over each of our initiatives. We've recruited some amazing individuals that selflessly give their time. It's the team's dedication that enables us to go from a team to a high performing working group. I've been lucky to lead this group of volunteers for over six years now, and all of the credit goes to these individuals on the FRC.

Ben [00:18:21] If we go back to some of the research areas that you're in, in the forensic community, one of those areas was the FLNTWG. And so I heard you're working with the FLNTWG on improving technology transition. How is that part going?

Henry [00:18:36] Yeah, I'm currently the chair of the research subcommittee for the FLNTWG, and we've been exploring the research and innovation landscape within forensics for a little bit. We've assembled an amazing team of brilliant minds that are dissecting technology transition and coming up with recommendations that will have a profound effect on future adoption of technology within labs and across forensic science service providers. It's going to be a great report. It's going to be coming out here in the next few months.

Ben [00:18:58] So thanks for your time today, Henry but before we leave our listeners, do you have any last minute thoughts before we close out this episode?

Henry [00:19:06] If I could, I'd ask everyone to check out the ASCLD FRC website and consider signing up for LEAP, posting a research project in the FRC Collaboration Hub, or submitting an evaluation or validation in the repository. Additionally, if you feel you have any ideas on how the ASCLD FRC can better support you feel free to email me and I'd be happy to discuss.

Ben [00:19:25] Yeah, thanks and thanks for your time and being willing to discuss all the great work the FRC is is doing.

Henry [00:19:31] Thanks, Ben.

Ben [00:19:32] If you enjoyed today's episode, be sure to like and follow Just Science on your platform of choice and also make sure to visit the ASCLD FRC website for more information. And for additional information on today's topic and resources in the forensics field visit ForensicCOE.org. I'm Ben Swanholm and this has been another episode of Just Science.

Introduction [00:19:55] Next week, Just Science sits down with Jodi Wolfe, Tim Scanlan, and Mikayla Martin to discuss the expert working group on human factors and forensic DNA interpretation. Opinions or points of views expressed in this podcast represent a consensus of the authors and do not necessarily represent the official position or policies of its funding.