

Illinois Forensic Science Commission- FIGG Subcommittee

Meeting Minutes

July 25, 2024, 10 a.m. meeting

- I. Call to order
Cris Hughes, subcommittee chairperson, called the meeting to order.

- II. Roll-call

The following people were present:

1. Dr. Ponni Arunkumar, FS Commission Member, subcommittee member
2. Claire Dragovich, FS Commission Member, subcommittee member
3. Jodi Hoos, FS Commission Member, subcommittee member
4. Cris Hughes, FS Commission Member, subcommittee chairperson
5. Jeanne Richeal, FS Commission Member, subcommittee member
6. Amy Watroba, Executive Director-Forensic Science Commission
7. Maj. Abigail Keller, ISP Division of Criminal Investigation (DCI)
8. Amy Smuts, UNT Center for Human Identification
9. Sarah Ware, Kane County

- III. Approval of Minutes from Meeting on April 25, 2024

1. The minutes from the April 25, 2024, meeting were unanimously approved.

- IV. Discussion and Q & A- Presentation from Amy Smuts (Forensic Validation Coordinator, UNTHSC Center for Human Identification)

1. Ms. Smuts shared that they have been working establishing their Forensic Genetic Genealogy (FGG) Unit in their accredited lab for over two years and that they are now fully on-line. The long-term goal was to get on-line with three technologies for flexibility. The three technologies are targeted sequencing, microarray, and Whole Genome Sequencing (WGS) which is not yet on-line. Ms. Smuts explained the breakdown of general pricing for the different types of kits and technologies. Ms. Smuts explained how each technology has its usefulness and its limitations. Dr. Hughes asked where different sample types fall in the pipeline. Ms. Smuts explained that they are funneling lower input more degraded samples into targeted sequencing and higher quality and quantity DNA samples (such as blood cards and stains) toward microarray.
2. The FGG Unit includes 2 in-house genealogists. They only use GED Match PRO right now. Ms. Watroba asked about whether DNA profile uploads remain in GED Match PRO to be searched against any future profiles that are entered. Ms. Smuts explained that an uploaded profile will remain in the database unless you take it out. She believes that the genealogists need to periodically check

on their uploads in GED Match to see if there are any higher confidence matches. Ms. Watroba asked about whether you could upload and then triage genealogy work based on the quality of the matches. Ms. Smuts said yes, and that the quality of the match could also lead to the decision to do a different type of testing to try to get a higher quality match in the database.

3. Ms. Smuts explained that the UNT Lab is unusual in that they are a crime lab housed within a public university. They have a casework lab that includes: a missing persons unit with a UHR section and family reference standard unit, a CODIS Unit, the FGG Unit, a forensic case work unit, and a sexual assault backlog team. Analysts are dedicated to different sections in the casework lab. The FGG Unit is under the umbrella of the casework laboratory which is accredited. To create the FGG Unit, they pulled some people from within but also brought in some people from outside the lab. The casework lab currently has funding so it can provide services to Texas law enforcement agencies for free. Fee for service is something they are considering in the future perhaps for FGG work. The Research and Development (R & D) Lab is a separate lab.
4. Ms. Smuts explained that they had to do a scope extension to do SNP testing in their accredited lab. The genealogy aspect of FGG is not done under the scope of their accreditation at this point. The accreditation window stops after the profile upload, then a case is turned over to a genealogist. Ms. Smuts indicated that everyone went through background checks just like any other lab employee, including the genealogists.
5. Ms. Dragovich inquired about the concept of labs moving away from STRs in the future. Ms. Smuts responded that the idea is to move toward a technology that would do both SNPs and STRs. Ms. Dragovich also inquired about the IT infrastructure requirements to bring SNP testing in-house and Ms. Smuts indicated that IT infrastructure is a huge issue and that they are setting up stand alone servers that cannot be accessed and that can store and handle all the data. Ms. Watroba asked whether a kit that tested for both SNPs and STRs would have to be approved for NDIS upload. It was agreed that approval would be necessary. Ms. Richeal observed that once commercial kits can test for both SNPs and STRs the cost will be more economical because of efficiency. Ms. Watroba noted that commercial kits which test for both would also give rise to discovery and court considerations downstream.
6. Dr. Arunkumar asked if UNT is using WGS in postmortem cases. Ms. Smuts responded that they are not yet offering WGS but that the R & D Lab is doing the developmental validation. Ms. Smuts was unsure if the R & D Lab plans to publish the developmental validation.
7. Dr. Hughes asked if Ms. Smuts could describe how they interact with law enforcement agencies as a main “hub” for FGG in Texas. Ms. Smuts explained how the lab identified possible cases that the lab had previously worked and then contacted the law enforcement agencies to assess interest and check the status of the cases. If an agency was interested in moving forward with FGG, the lab explained what was involved and had the agency complete an “out of

station form” which gives the lab permission to test the sample. Essentially the lab took the DOJ Interim Policy and tried to condense it into the form. The agency must agree to all the terms outlined in the form before the lab will move forward with testing.

8. Dr. Hughes inquired about how the lab educates law enforcement agencies, since the subcommittee is considering providing basic and consistent information about FIGG to law enforcement and State’s Attorneys’ Offices. Ms. Smuts explained the “out of station” form is part of a larger packet for the agencies. She also explained that the lab has an investigative support unit with one investigator who the 2 in-house genealogists report to. The investigator is in charge of reaching out to agencies and ensuring they understand the process and complete the paperwork.
9. Ms. Dragovich commented that she works at a small lab imbedded in a sheriff’s office where investigations are separate from the crime lab. While the crime lab sometimes discusses cases with investigators, the lab is rarely the “360” of what is going on in a case, like what Ms. Smuts described at UNT Lab. Ms. Dragovich asked if Ms. Smuts could explain who they partnered with and how they identified which cases they would work with FGG and how large of a list it was for the lab to identify cases the way they did. Ms. Smuts explained that they got an initial list of their lab’s suspect unknown cases with no CODIS hits. Then they looked at cases to see if they had been solved in another fashion. They started with a list of about 1000 cases and got it down to about 300 cases. Then they looked at the cases from a scientific standpoint to see if any were candidates for FGG. They formed an internal triage committee that went through each case make sure it met their criteria, the DOJ Interim Policy requirements, and that there was a sample the lab could successfully process. After deciding to move forward with a case they would turn it over to their investigator to confirm that the case was not solved by other means and that the originating law enforcement agency wanted to pursue testing. Discussion ensued about how UNT utilized CODIS to create their initial case list and Ms. Smuts suggested that the state CODIS administrator would be a good source of information on the specifics of the search.
10. The internal triage committee was assembled after the FGG Unit was already in place at the UNT Lab and thus they had individuals dedicated to case identification. The triage committee included: the FGG technical leader, a FGG analyst, the associate director of the lab’s anthropology unit, a casework lab director, a lab director, Ms. Smuts, the alternate CODIS administrator, and the lab’s director of legal training in forensics. They met every 2 weeks for about 2 hours and would get through approximately 20 cases per meeting. The meetings took place during the same time period that the validation was taking place in the lab.
11. Ms. Smuts noted that, because UNT Lab also has a missing persons unit, they were able to check that unidentified human remains (UHR) were not identified through other leads. The role of the anthropologist on the triage committee

was to help assist with reading anthropology and autopsy reports to determine whether the UHR cases could be homicides and, thus, possibly qualify for FGG.

12. Ms. Smuts indicated that they had not yet solved any cases with FGG, thus no cases have moved forward to the courts. The director of legal training in forensics and the FGG unit investigator advise them on potential legal issues downstream. Dr. Hughes inquired about whether the lab considered or will consider working with the FBI for the genealogy part of the process. Ms. Smuts indicated that even though the genealogy does not fall under their accreditation, they prefer it to be done in-house. The lab has a mechanism in place if a LEA wants the UNT Lab to do SNP testing but then have someone else do the genealogy. The lab is considering creation of a separate out of station form that requires LEAs to agree to certain things if they are turning the data over to someone else for genealogy. Ms. Smuts further stated that they strongly encourage any LEA who wants to do SNP testing elsewhere to use an accredited lab.
13. Ms. Watroba inquired about any differences that existed in the process or handling of UHR versus criminal case samples. Ms. Smuts stated that they used mostly UHR cases for their pre-scope testing, so UHR cases were not necessarily on a different track, but they started their triage with UHR cases.
14. Dr. Hughes posed the question: if you had the chance to go back and start from beginning what would you change? Ms. Smuts responded that they would probably do microarray first instead of targeted sequencing. Microarray is much faster and creates more data. However, targeted sequencing is better for cases like UHR.
15. Ms. Richeal asked about the role the anthropologist plays in the FGG Unit. Ms. Smuts explained that the anthropologist assists with determining whether UHR cases may be homicides by reviewing and translating reports and then the investigator follows up with the medical examiner's office if a UHR case is identified as a potential homicide. Dr. Arunkumar explained that often anthropologists are able to identify injuries as pre-mortem but that the medical examiner's office will consider the cause of death "undetermined" or "homicide by unspecified means" based on the factual circumstances. However, after UHR are identified, a criminal investigation often results and sometimes the manner of death is reclassified as a homicide. Dr. Arunkumar indicated that Cook County has approximately 10-12 cases of UHR per year who cannot be identified by other means such as fingerprints, DNA, etc. Dr. Arunkumar explained that the CCME's Office uses Rapid DNA only in non-homicide cases where a possible family member has been identified. In homicide cases, the CCME's Office uses a private lab or ISP for DNA testing. For non-homicide skeletal remains, the CCME's Office used to send samples to UNT but now that is no longer an option. ISP has a bone protocol and can test the bone samples and enter the profiles into CODIS. Dr. Arunkumar explained that

the CCME's Office also retains and stores a small bone from the base of the skull (petrous temporal bone) for UHR for possible future FIGG testing.

16. The use of and process required for outsourcing labs was discussed, including what is involved in a CODIS-participating laboratory being able to take ownership of another lab's data and upload the data to CODIS at different levels and in different indices.

V. Old Business

1. No old business was discussed.

VI. New Business

1. Discussion was held on next steps for the subcommittee, and it was decided that members and Ms. Watroba would reach out to additional labs to seek more presentations about different approaches to FIGG. Matthew Gamette from Idaho is scheduled to speak at the next subcommittee meeting.
2. Dr. Hughes mentioned the two CVs that were shared with the subcommittee for individuals who have experience with genealogy. Discussion of the CVs was postponed due to the fact that several subcommittee members were not present for the end of the meeting.
3. The individual from the Doe Project was identified as someone that the subcommittee would like to hear from on the topic of UHR and the concept of complementary FIGG paths for UHR samples and criminal forensic samples.
4. Ms. Richael suggested that the protocol being used by the CCME's Office to preserve the petrous temporal bone for future FIGG testing might be something that other coroner's officers in Illinois could consider. The idea of the subcommittee making a recommendation related to retention and cold storage of the petrous temporal bone in UHR cases was raised.
5. Ms. Smuts indicated that the UNT Lab will put on a workshop at the annual ISHI Conference and Ms. Richael indicated that she plans to attend the workshop.

VII. Public Comment

1. There were no public comments.

VIII. Meeting Schedule

The next meeting was scheduled for August 29, 2024, at 10:00 a.m.

IX. Adjournment

The meeting was adjourned at approximately 11:27 a.m.