Q: What is it like to profile serial killers and other high-profile cases?

A: Dr. Mary Ellen O'Toole: We actually profile the crime scene and not the unknown offender when working on a serial murder case. What we did in the BAU is really very challenging because there are so many aspects to the scene and you have so many components and parts. You have the victimology, pathology, type of sexual assault, you have so many elements of the crime that you have to fit together like a puzzle. Unlike what they portray on TV, all serial killers are not alike. The most common type we worked with in the BAU were serial sexual killers, which are men that murder for sexual reasons. But they use different weapons, they went after different victims, they committed their crimes at different times of the day, they did different things to the victims at different times during the crime so that's what makes it difficult. You really have to dig in and really understand each and every crime scene of each and every offender.

One of the things that makes me so excited about this initiative that Tony (Dr. Falsetti) is talking about is oftentimes our victims are left outside and when we recover the victims, they may be skeletonized remains or they may have minimal forensic evidence left on the body. It becomes really important to understand what the environment does to human remains in a case like that, which is really interesting. The cases are fascinating, there's no question about it, but to me the most interesting thing, once you know what the serial killer did and how he did it and why, then the fascinating thing to do is to sit across the table and talk to him about how he did it and why he did it, and have him put it into his own words. I say this with a certain sense of humor we have in the BAU, I say this with all the respect to all the people we have ever worked with: talking to a serial killer for me is better than getting a pony at Christmas time because you're really inside the mind of these individuals and the things that they tell you. They DO tell you, and it's unbelievable.

Q: Do you think we can find the Zodiac Killer now that our DNA analysis is available?

A: Dr. O'Toole: This is an excellent question. As far as Zodiac I think you're talking about the California Zodiac case, we're pretty sure we know who it is, and he has died. But being pretty sure is not being absolutely sure. So yes, I do think that with the new DNA techniques and the type of analysis that is out there and the type of analysis that our students are going to be learning about here at George Mason, I think there's a pretty good chance we will be able to resolve that case with a certain degree of certainty and that's important.

The problem with that case is this: I worked on that case in '77, '78 and '79 and then I went back and worked on it in 1990. So, I worked on it when it was still happening and I worked on it in the 90s. Part of the problem with that case is it was investigated by different agencies. I was with the San Francisco attorney's office, we had some of the evidence by other departments had other evidence and you learn as a forensic scientist that if you don't have all the evidence together in one spot, oftentimes, it gets lost. Evidence wasn't packaged correctly and so in this case we did run into that problem because of all the multi-jurisdictional issues that we were facing but I'm optimistic. I think with the state of DNA now, we will make the determination exactly who the Zodiac was.

Q: With the donor bodies being placed outside at the facility, how will the odor of decomposition be handles and won't the fencing restrict animal access? If so, doesn't that restrict some of the science?

A: Dr. Anthony Falsetti: Good question, will donors be placed on the surface, yes. Will this create an odor, again yes, but for only a short period time during the decomposition process, in fact we are very interested to learn how odor behaves so we can use the information to better train law enforcement cadaver dogs. Based on my personal experience, odor doesn't travel very far and will likely dissipate before reaching any of the area surrounding Mason's campus. Moreover, animals such as deer have died and decomposed in the area selected for the laboratory and to my knowledge no one complained. My plan to deal with any complaint would be to speak openly and honestly about what we are doing and why it is important research to help solve cases.

Yes, fencing it will restrict large animals such as deer that we know live in the woods behind Mason. The fencing is a necessary safety and security factor and is found at all similar research facilities. It enables us to protect the integrity of the research and provides privacy for the donors. Despite the fencing, many of the more skilled mammals such as foxes and opossum have found their way into the facilities around the country and we can then account for their presence and impact.

Q: Are there any plans on incorporating some sort of law enforcement training of processing clandestine graves or outdoor crime scenes using the donated remains? Or will it be completely focused on university studies? I ask because the San Marcos location we utilized donated remains to San Marcos and their facilities do an annual training event for our agents within Army CID on the same. Could be beneficial for this area as well.

A: Dr. Falsetti: Absolutely, we are already working our Army CD contact in developing specific course to meet the needs of military forensic teams and their respective agents. We wholeheartedly agree that these courses could be very beneficial to our military students and practicing agents from US Army, US Air Force, and Navy NCIS.

Q: How is the CSH working in a virtual learning setting?

A: Dr. Falsetti & Dr. O'Toole: We have had to restrict the number of students using the Crime Scene House and have limited the exercises we would normally hold. We are developing new ways of using virtual technology to prepare our students for crime scene examination. Finally, we look forward to increasing usage following George Mason's strictest guidelines.

Q: Is the research into scent and odor similar to the device Dr. Arpad Vass used in the Casey Anthony case?

A: Dr. Falsetti: There is some similarity in our research goals; develop a tool that detects volatile organic compounds (VOC's), however we are benefitting from a complete understanding of our laboratory's natural environment. Baseline data from our soils, various animal species, plants, and trees will give us the necessary information to design experiments that use human donors in various scenarios. Dr. Vass's work is important because he was one of the first to try and determine the chemical components of odor we can benefit from his efforts. Parenthetically, our professor who is leading the research effort in 'odor' versus 'smell', Dr. Brian Eckenrode is a chemist who has worked with Dr. Vass at the facility in Tennessee.

Q: Is there a doctoral program that will be offered by GMU that is focused on Forensic Science (if not already), where research can be conducted at this facility?

A: Dr. Falsetti: No, not yet, we are definitely studying the efficacy of developing a Ph.D. in Forensic Science. In the meantime, any qualified master's or doctoral student at George Mason is welcome to propose a research project that takes advantage of the laboratory.

A: Dr. O'Toole: We're a visionary program, and one of our five-year visions is to create a PhD program. So that's in a planning stage, we don't have it yet, but we have discussed it and are planning on it.

Q: How can undergraduates become involved with the laboratory at the SciTech campus? Do we have to create a research proposal to be involved? Or can we assist in some way if we do not have a proposal?

A: Dr. Falsetti: I am happy to share our work at the laboratory with all of George Mason's students. As time passes, we will have many opportunities for undergraduate students to help with our research projects. If advanced undergraduates want to conduct a research project, then we will work with them to help develop a project that can be completed in their time frame and that is beneficial to our goals of the laboratory.

Q: When is this able to go live and will receive donors?

A: Audrey Kelaher, Director of Development: Our development office is always open to discussing opportunities for philanthropy. When you provide philanthropic support for the forensic science program, it is an invaluable resource because it's "unrestricted". By that we mean that it's not allocated to a very specific scientific budget line, if you will, but they can use philanthropic funds to fuel and accelerate the priorities for the program without that they otherwise would not have available. Certainly, with the crime scene house that's absolutely critical. The philanthropic funds will become critical in that we have a graduate fellowship fund for the forensic science program to provide support for Masters students coming in your donations so that will be greatly appreciated and very, very well used. So that's a general outline and also a very specific cause so beyond that, I would say were actively seeking the partnerships

that have been discussed that involve training, but also creative opportunities to help support these offerings these educational offerings to community, if you will. You can contact me at akelahe@gmu.edu for more information.

Q: For your law enforcement partners, do you have an idea or can you speak to if there are any training courses that are being developed for clandestine grave recovery? Similar to the NFA in Oak ridge, TN where they have clandestine grave week?

A: Dr. Falsetti: Yes, we are currently in the planning stages with Prince William County PD, Fairfax City and County PD's and our very own GMU PD to create curriculum for training courses in human remains recovery, cadaver dog training, and other programs that will utilize Mason forensic science and our facilities. We are also working with Virginia Department of Criminal Justice Services to have these curricula certified as approved continuing education courses.

Q: What does the Master's Degree "Professional Science Master Forensic Science" specialize in?

A: Dr. Falsetti: The Professional Science Masters (PSM) of Forensic Science is a degree designation designed to prepare students to take leadership roles in laboratories. The PSM is a nationally recognized organization that emphasizes the 'business" of science that includes leadership, ethics, human resources, budgeting and accounting skills. We plan to offer an accredited PSM to those students interested not only in being outstanding scientists, but who might want to seek a leadership role in their laboratory. FYI, https://www.professionalsciencemasters.org

Q: It was mentioned by Dr. O'Toole that Federal and State LE would be able to use the new body farm facility, does that extend to the local Military Federal LE (Air Force OSI, Army CID, etc.)?

A: Dr. Falsetti: Absolutely, we are already partnered with Army CID and have representatives from US Air Force in the program. We are excited to develop training for military specific forensic needs beyond our classroom and incorporate the laboratory.

Q: How do you feel about using trace evidence such as hair and fibers in forensic science? Will you be training in these areas?

A: Dr. Falsetti: Good question, the answer is yes, we teach courses in trace evidence at both the undergraduate and graduate level. Students are trained on the necessary recovery and instrumentation and they have to testify to their findings in moot court with a prosecutor and defense attorneys.

Q: Would you suggest getting the advanced masters at Mason? I am looking to go into forensic pathology to become a medical examiner and I was wondering if having that extra notch on my belt would make a difference?

Dr. O'Toole: So, what I would say is if you are interested in becoming a medical examiner that will require that you go to medical school and become a forensic pathologist and that's a great career path. We have people that are graduate students that do come into our program, and I think we have a really vibrant program for people that want to be death investigators. When they graduate from the program at Mason, they go work for agencies like the District of Columbia medical examiner or the Northern Virginia medical examiner's office so they get the jobs. If you wanted to pursue an extra degree before you went into medical school, then you'd want to probably focus on working in a medical examiner's office as part of your internship. That's something that we could certainly work with you on. Right now, we have several in that very sought-after internship, but we have two students out there just about every semester working at both of those medical examiner's offices and they love it and they learn a lot. They come away and they're very skilled and they're very competitive and are getting the jobs. I just don't know if you're facing those years of medical school, if you don't want to just jump on giving them in to medical school right away, but if you decided that you wanted to add another degree to your belt, we'd love to talk to you about it.

Q: Is it true that, unlike the TV shows, profilers work from the evidence and photos instead of actually going to the crime scene itself? I heard this was the case, but I keep thinking surely there is a lot more that can be learned from being in person on sight?

A: Dr. O'Toole: Profilers do go to the crime scene, but when the get to the crime scene the evidence has usually been collected. So, we don't go to the scene when the first responders are there and the crime scene investigators are there, it's typically days, weeks, months, or even years later. We go very prepared, having read all the forensic reports. We go there after having studied all the photographs, looking at all the interviews, the neighborhood investigations, etc. We look at the whole case file before we go to the scene. The value of going to a scene, even though it's after the crime has occurred, is you really do get a much better sense of the neighborhood, you get a sense of how the offender was able to get so close to the victim, and you see if the behavior itself was really high risk for the offender, and if he engaged in such why risk behavior why he did that. How much pre-incident knowledge to the offender does the victim has, which asks did he just target him or her in the moment or had he been in the neighborhood for a while? So, when you go to the scene itself, and you see physically how its laid out, it becomes really helpful to understand how the crime occurred and why that victim was selected. So again, we don't go to active crime scenes because things are still being collected, studied, and analyzed. We go after the fact, and when we do go we take with us the case file that we've studied in depth. So, we have a very through knowledge of the case.

Q: What's the official name for the 5-acre site? And is there a timeline for its development, e.g. when is land clearing and when is the fence going up?

A: Dr. Falsetti: Mason Facilities is currently working with Tri-Tek Engineering to finalize a prospectus for fencing. Once completed, then the project can begin ASAP. It is our hope to have the fencing completed by the beginning of next semester, January time-frame. Parenthetically, we are only planning on taking down any trees that would impact the fencing, we will not be clearing any land, our goal is to leave the forested area pristine so that our research mimics a real case scenario.

The official name is the Forensic Science Research and Training Laboratory because it is a laboratory within the forensic science program and the College of Science. By spring semester, we hope to be in a position that if donors are available that we can introduce them to the laboratory. Realistically, the end of spring semester because there have been delays with COVID-19 specifically, and backlogged all the donor programs in the state of Virginia. Research institutions will take a back seat to Virginia's medical schools, so the spring semester is ideal and summer at the absolute latest.

Q: The new forensic facility will be adjacent to an existing team building facility on the SciTech campus. Strong teamwork is needed to solve crimes. Do you see some potential to collaborate with the challenge course as part of the academic program?

A: Dr. Falsetti: Excellent suggestion. At this moment, we have not directly contacted our friends at the Edge, however that is a terrific idea. I could foresee combining practical hands on training with a teambuilding component as a significant part of any of our training offerings. Thank you.

Q: As the university plans to build a new instructional facility at Sci Tech, what other GMU departments will you/can you partner with as there will be a cadaver lab housed in the new building?

A: Dr. Falsetti: Yes, we are looking to partner with Engineering, Human Performance, and the Applied Proteomics and Molecular Medicine laboratory. The cadaver lab allows us to integrate future coursework with anatomy and Human Performance. We are actively looking to engineering for remote sensing technology both land-bound and drone capable so, yes we are excited to be a part of SciTech.

Q: Do you anticipate "aggressive" negative public reaction to this effort, bad press, community issues, or ethical/moral negative response from others?

A: Dr. Falsetti: The simple answer is, yes there will likely be some negative opinions about having such a 'unique' facility at Mason. I believe that by continuing to be open with

community leaders, such as Supervisor Lawson in Prince William County and her staff and local law enforcement that we can dispel any fears.

Q: You mentioned wanting to have a program for students of high/middle school to introduce them to forensic science, is there currently an outreach program to partake in what it takes to be a forensic scientist?

A: Dr. Falsetti: Yes, we are connected directly to Mason's STEM outreach program and have held special summer camps for girls from underrepresented minorities. Moving forward we would like very much to engage Fairfax and Prince William County educators and help create age-appropriate forensic science material for their classes.

Q: Any thoughts on working with the Governor's School and offering a forensic science tract for dual enrolled high schoolers?

A: Dr. Falsetti: We are very excited to be joining everyone at SciTech and we are open to engaging with everyone, including the Governors School. I would like to get a better idea of how the Governor's School operates and open up a dialog with them.

Q: Aside from funding what is the biggest challenge facing the Forensics program and how can the people on this call today best support you all moving forward?

A: Dr. O'Toole: I would say, having been an FBI agent for so many years, one of the things that the FBI I think does really particularly well is that we provide training throughout the world to law enforcement partners. The training covers a wide variety of areas and we provide, in some cases, the only opportunity some departments will have to receive that particular training, whether they get credit for it or they don't. So, with the work that we're doing, whether it's with the crime scene house or with Tony's initiative or with the courses that we want to offer relative to the future of DNA or the future of forensic chemistry, we'd like to provide that to law enforcement throughout the country because we have four retired FBI agents on our faculty. We know how important that is and I think through that partnership that really gives the public a very good idea of how sincere we are in wanting to make this a community effort to give back to the community to bring in, for example, students who want to go into stem when they go to college.

We want to have the reputation ourselves being very philanthropic and giving back to the community and I think that will inspire people who want to help us. To be able to do some of these things I think it will be it will be something that will help them to make the decision to maybe work with us and help us to do these things in the area of, for example, forensic DNA. We want the crime scene house to be state of the art so we can do all the things I told you about. I think that will send the message to people of how important this is not just for us, but for them to in the community and in the broader law enforcement community.

A: Dr. Falsetti: In addition to the people in the call supporting us by being here, you help by telling everybody, we're cool. After attending this event, our hope is that you can understand what we're doing, then you can tell other people and explain to them why it's really important that they have a crime scene house or that human donors are going to be used to study decomposition, which if you say that kind of yucky, but it's really not. It's really important. So, I would say that, you can tell others we're going to offer training, we're going to do all these things. For the folks attending the call today if there are creative partnership opportunities that would support your employees, students, or if you're just interested in supporting and going through this program, let's talk! There might be avenues that we haven't discussed specifically. Again, going back to Mary Ellen's point about creating kind of custom graduate programs, custom graduate certificates, if you will, those are ways of supporting the program. Getting students through the program. We also have many alumni participating on the call, so we invite you to appreciate the ways in which the College of Science and Mason is growing. Again, the spans all departments within the College of Science, so your support of this program makes a big difference and we appreciate it very much.

Will there be any research/work done with forensic entomology?

Yes, we are already working closely with entomologists in the College of Science and their graduate students to develop specific experiments based on what we expect insects to do here in the Mid-Atlantic. In fact, right now we have several forensic science students learning how to 'identify' various carrion insects in order to prepare them for collecting them in the field.