

Just the Jodi Arias Case

Introduction [00:00:05] Now, this is recording, RTI International Center for Forensic Science presents Just Science.

Voiceover [00:00:21] 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 three of the Case Studies season, Just Science sat down with Heather Conner, Latent Print Unit Technical Leader in Mesa Police Department's Forensic Services, about the investigation of a grisly murder in Arizona. In June of 2008, Travis Alexander was found dead in the bathroom of his home. His killer, ex-girlfriend Jodi Arias, was found guilty of first-degree murder and sentenced to life in prison. Heather Conner and her team used a variety of forensic disciplines to piece together the crime scene and affirm the conviction. Listen along as she discusses her journey in forensics, the investigation of the murder of Travis Alexander, and the importance of a multidisciplinary approach to crime scene analysis in this episode of Just Science. This season is funded by the National Institute of Justice's Forensic Technology Center of Excellence. Here is your host, Dr. Mike Planty.

Mike Planty [00:01:33] Hello and welcome to Just Science. I'm your host, Dr. Mike Planty with NIJ's Forensic Technology Center of Excellence, a program of the National Institute of Justice. Here to help us today with our discussion is guest Heather Conner. Welcome to the podcast, Heather.

Heather Conner [00:01:46] Thank you. I'm very excited to be here, Mike.

Mike Planty [00:01:48] Heather is a Forensic Scientist Technical Leader with the Latent Print Unit of the Mesa Police Department Forensic Services. She's a certified latent print examiner and a certified crime scene investigator through the International Association of Identification, IAI. Heather has been with Mesa PD since 2004, previously holding positions as crime scene technician and forensic services laboratory technician. Prior to joining the Latent Print Unit in 2005, she's currently a member of the IAI Latent Print Identification Science and Practice Subcommittee and served as the Secretary for the Arizona Identification Council, the state division of the IAI. So our topic today focuses on complex crime scene investigations and physical evidence. We're focusing on the 2008 murder trial. Travis Alexander was brutally murdered in his home in Mesa, Arizona, in June 2008 by his ex-girlfriend, Jodi Arias. She was found guilty of first-degree murder and subsequently sentenced to life in prison. The physical evidence, particularly the latent print and digital evidence, along with a host of others, played a significant role in the conviction. The physical evidence, I think, in this case made a difference. Heather, this case received tremendous attention from the media and still continues to today to receive attention. Can you explain a little bit about all of that surrounding the case while you were working it?

Heather Conner [00:03:12] Absolutely. So at the time, back in 2008, the latent print unit members were responsible for responding to major crime scenes within the city - officer involved shootings, homicides, high profile sexual assaults - and we really focused on those types of crimes. We transitioned out of that in 2009 so this was really the last large case that I worked as the lead investigator, never expecting this to be the one that would define my crime scene career. You get a call out and get told to- to respond to a crime scene, and you don't realize the breadth of the investigation at the time. We got notified that there was a homicide that was very bloody and that was really the extent of the information that we received. We had someone in training, and so I was going to go out

with her as the senior examiner at the time. Everything she would do would be under my direction. We'd have her there as a trainee. She'd have an opportunity to do some of the work, but it would all be under my direction so I would be the one to write the report and everything else. We went out some time earlier in the morning, probably eight or nine o'clock. Typically, we would go out and we'd work a crime scene from beginning to end. And when we got there, it was pretty clear from the very beginning this was going to be a little bit different for us. It was going to be much more involved than what we were typically going to have at a crime scene. The house is very large. It's over three thousand square feet. It was really a whodunit. We had no suspects in the case at the time that we started the investigation - at least the investigators didn't. We don't do those investigations, but there was no known suspect at the time. All we knew is that we had a dead body in a house and that he had been there for a little while. So it was myself and another examiner in training who went out. And due to the amount of blood spatter that we had been told was there, we invited three members of our biology unit - so in serology and DNA - to accompany us too. We would do the documentation of the blood spatter, but they did the interpretation of the blood spatter. So they came out and they were invaluable in the assistance that they provided to us. So it started off with five of us there. That was unusual in and of itself. We would tend to have a single examiner do all of it, and we would go out, take photographs, collect evidence, process for latent prints, do other chemical type of processing. We already had five individuals that were going to be assisting from the laboratory in addition to all of the detectives and other investigators that are there to help in other aspects. So we get there and we find out that we've got this individual who's been at the house for a while - we don't know exactly how long - and they point out a couple of things to us. There's what they tell us is a partial shoe print that looks like it's in blood on a tile floor in a bathroom. This house is a two-story home. There's blood on the washing machine so they want us to look at that as well. And there's just a lot of different things going on, and it looks like it's going to be somewhat complex in how to approach it. So we go in as anything else, we take our photographs, document how it is when we get there. There had been, as in any complex crime scene, there had been a multitude of people that have gone through this case before- through the house before we ever got there - first responders, paramedics, firefighters, the county attorney that ended up prosecuting the case, in fact, had gone through the scene before we ever even set foot in the scene. That was a little more unusual, but it has happened in the past. So we were seeing debris and other things that are just part of a scene. Every scene you go into is contaminated. You just document it as you see it. So we went in, all the photographs were taken. We started looking at things like the shoe prints on the floor, very partial. We knew we were going to do some chemical processing to try to make it look better. We saw blood in a variety of places upstairs and downstairs. We knew we were going to want to process the shower stall in which the victim was found. He was found in a kind of tight shower stall where the shower stall was separate from the tub in this bathroom. There was evidence all over. And then one of the more interesting things that we weren't expecting to find that was found was there was a digital camera in the washing machine downstairs - that was pointed out to us pretty early on. So we knew generally what type of evidence we were going to collect, but we knew we were going to find more things as we went through the scene as well. So a little bit of background on the case, if I may. The victim in this case, his name is Travis Alexander. He's a 30-year-old member of the Church of Latter-day Saints, also the Mormon Church, more colloquially known, and he hasn't been seen for a few days. His friends haven't been able to get ahold of him. He's not answering his phone. His voicemail has filled up and nobody can get ahold of him. He lives with two individuals in this house. He's the owner of the house, and he rents rooms to two other individuals. Some friends that are trying to get ahold of him go over to the house, knock on the door. Nobody answers. They knock again. Nobody answers. They know the code. There's a small

keypad on the side of the house that gives access to the garage. They enter this code. They know he doesn't lock the door between the garage and the house. They enter the code to try to go in and find him, access the house, and find that one of his roommates actually is present but didn't expect anybody so didn't answer the door. He tells them, well, Travis has gone on this cruise that he's been planning to attend, and he's gone on this cruise, and they said, no, he doesn't leave for the cruise until tomorrow. They go upstairs and find his bedroom door locked, open the door because the roommate knows where a key is. And then they see blood in the entry carpeting area leading to the bathroom hallway immediately and realize something has gone wrong. So that's when police get called and that's when we get dispatched. So the victim is found on his back in a supine position in the shower stall. You can see defects to his throat, and you can see some decomposition, but you really can't see too much more. It's in June in Arizona - we're pretty warm here in the Phoenix Valley. So we don't know how long he's been there, although the house has been air conditioned the whole time. We do the entry photos; we pay some attention to the shoe prints. We use a couple of different chemicals to try to enhance the shoe print, hoping that that would have some impact in the case. Ultimately, it doesn't, but it was an interesting aspect of the case. We used both Leucocrystal Violet and Amido Black to try to enhance the shoe prints. Unfortunately, it doesn't work.

Mike Planty [00:08:44] Can you say a little bit about how those techniques were used - what type of enhancement process would they be focusing on?

Heather Conner [00:08:50] Absolutely. So we started by doing documentation photos of where it is in the house. Then we did examination quality photographs using a digital camera, and we use a Canon camera. We put in the raw setting. We do full photographs of the shoeprint as it was, then we decided to do chemical enhancement. We believed it was in blood. We have a couple of different things to use to do blood enhancement. The first one in sequencing would be Leucocrystal Violet, which is available at our lab - that reacts to the heme in the hemoglobin in blood and will turn any hemoglobin there purple. It's a similar reaction to what you would see with phenolphthalein in doing a presumptive blood test out in the field for a swab. And we did this Leucocrystal Violet or LCV on it. It turns everything purple. At the time, we didn't think about it. In hindsight, the reason we don't think it was that successful is we believe that there was so much blood in the hallway and some spreading out of the blood due to some water - whether that's a matter of clean up or the shower overrunning - caused the blood to disperse so evenly that there was so much hemoglobin to react that everything turned purple. So we really didn't get any crisp detail. We were looking for detail to be enhanced, hoping that just the outsole pattern had been in contact with the blood. But we didn't get that. We just got a big purple blob, essentially. And we think that's because the Leucocrystal Violet is so sensitive to this hemoglobin that it just turned everything purple. The second process we tried just as a second hope of maybe enhancing the detail was Amido Black. Amido Black is another chemical that is used for blood enhancement. It's less specific than Leucocrystal Violet in that it reacts with proteins, so it turns things a bluish black color. So we attempted to apply Amido Black to this impression as well, hoping to get more detail. And unfortunately, it didn't work. It was a very small impression as it was. There wasn't a whole lot of detail even visible. And unfortunately, we just didn't get anything. But it was certainly something that we were hoping to get - because we did that processing, we also did latent print processing with these chemicals in select areas of the house. And that becomes very important in the case. We develop a palm print on one of the walls in the hallway that we could not see in any way, shape, or form prior to this processing with chemicals - both again, Leucocrystal Violet. And we took photographs of the area we intended to process, saw nothing, applied the LCV, developed a palm print, photographed that - many, many

photographs of that, as a matter of fact - then applied the Amido Black to attempt to develop additional ridge detail and did additional photographs. In addition to that, we decided to cut the wall out and bring the piece of wall with the palm print on it back to the laboratory to attempt additional enhancement. Didn't end up developing anything additional to what we had developed at the scene, but we did many, many processes in the laboratory to this palm print with the belief that it was going to be very important to the case. Eventually, this palm print, I enter that into our Arizona AFIS system, which is the Automated Fingerprint Identification System. It's a repository of known finger and palm prints in the state of Arizona. And we had been bringing in individuals throughout the investigation - people, his roommates, people who had found him, acquaintances, other individuals - and our fingerprint unit was adding all of these exemplars that were being collected from these people into our AFIS system. So rather than just do a manual comparison, we decided to start with AFIS. So I put this palm print in AFIS and put it in two different ways. Just as an aside, I put it in the way I thought it was oriented, which was completely wrong at the time. And then I put it in where it would search the system 360 degrees without an orientation, meaning it would search all over, and that's the- that's the way that it hit and it hit to the suspect in this case, Jodi Arias. It was her left palm print - that's much further into the investigation.

Mike Planty [00:12:36] OK, yeah, I was going to say at that time you probably didn't have her as a suspect or a controlled print from her, right?

Heather Conner [00:12:41] Right. We didn't have anything. It was a matter of her coming in to do an interview with detectives, and they asked at the time - we were doing this with everyone who was coming in for a variety of reasons - to provide inked prints, exemplars, and buccal swabs for DNA samples. We were doing this, like I said, of the roommates, the people who found him, other acquaintances, people who had access to the house legitimately. We were collecting these with the intent of being able to do some additional investigation when needed. So we started with chemical processing fairly early on with the shoe prints. We did additional chemical processing, but that doesn't even get into all the other processing we did. We processed all over this house for latent prints - both upstairs and downstairs. There was processing in the laundry room, in the downstairs bathroom because we had found areas of suspected blood there. We processed the washing machine, especially due to the fact that the digital camera was found inside, the entire bathroom. We trashed this house and that's typically what you're going to do in these complex cases. We cut pieces of wall out. We cut carpet out, we cut carpet padding out. We collected drain traps, faucets, doorknobs, doorjamb, the shower door we brought back with us. You just completely - you'd pick up the whole house if you could and bring it with you.

Mike Planty [00:13:54] One of the interesting parts is the identification of the blood print on the washer, and I think it was a washer. So that- was that just noticed by one of the detectives and did they lift it and look in it. Or was that later- was the camera later found? Maybe talk a little bit about that.

Heather Conner [00:14:10] So what they did is they found some red- the print wasn't on, on the washing machine, but there was some reddish-brown staining on the washing machine that really kind of caught the attention of the detectives. And they saw this, and they decided to go ahead and open up the washing machine. And they found- if you ever left, you've done a little laundry and then you leave it in there and it dries kind of wrinkly like it's been through a spin cycle. They see those types of items in the washing machine, but right on top of it, they see this digital camera. And I don't know about you, but I don't

put my digital camera in the washing machine. So it was kind of a moment of what in the world is that doing in there? So we photographed it as they had found it. We also pulled all of the items out of the washing machine and photographed them because you've got to document everything inside. That's the big thing in these complex cases is document, document, document. You can- you can never over document, in my opinion; you can only ever under document - digital's cheap, keep taking photos. It's really important. So we pull all of these items out and there's a bunch of items inside, in addition to the digital camera, but there's a bunch of items inside that have what looked like bleach stains on them. And there's some towels, some other clothing, and they look kind of tie dyed to a certain extent where they look like they have bleach damage to them. The dryer, we find a bunch of bedding. And at the time when we're looking at this, we don't really know where it- where it comes from but based on the analysis of the evidence in the case, we determined later on that it comes from the master bedroom, from that bed in the bedroom. So there's a lot of question of how much cleanup activity was performed in this case.

Mike Planty [00:15:35] So the washer and dryer were in a different part of the house?

Heather Conner [00:15:39] Yes, they're downstairs. It's the room that comes immediately off of the garage and then leads into the downstairs living area. You have to go downstairs and around to get to this particular laundry room. Because of the movement of these items from the bedroom to the washing, the laundry room, we did luminol this entire pathway trying to find a blood trail. Unfortunately didn't find one, but we were thinking that there may have been blood tracks so more chemical processing that was performed in this case. So we have the camera. We end up processing the downstairs bathroom because we find blood in the sink that is later shown to be Travis's blood, our victim's blood. The blood stain that was found on the washing machine, unfortunately, is too diluted for us to get any results and DNA ends up being inconclusive so we don't know who that is. But there's definitely blood on the top of the washing machine. We have the camera. We have all of the items from the washing machine. We have the sheets that we end up finding out are from the bedroom. Now focusing everything else essentially is found in the bedroom. Nothing really else of evidentiary value that matters in the case is really found downstairs. We collect lots and lots of things - paperwork. We collected every knife from inside the house based on the types of injuries the victim had, cell phones, computer equipment and the like. But nothing really ends up mattering downstairs, really, with the exception of that camera. And when we find the camera, the door that closes the area where the battery and the memory card go was found at the bottom of the washing machine. But there's a memory card in the camera and we collect that - that gets analyzed as well. And at the time, we don't know if the camera's been through a wash cycle or not, but we think it may have been. Then up in the bedroom we collect many, many items, but the ones that become really important is there's a long hair on the bathroom hallway floor that's stuck to the floor in blood, and it has a root on it so we collect that. We collect many, many fibers and other trace evidence from the shower, the walls, the floor, everywhere else. There's blood everywhere - blood on both hallway walls, on the floor. It's in the main bathroom. It's on the blinds in the main bathroom. It's on the ceiling in the main bathroom. This bathroom has a separate room that contains the toilet or a water closet, as it were. There's blood inside there on the floor. There's actually blood on the base of the toilet behind there. I would love to suspend reality for about five minutes and find out how the blood just gets everywhere in this case. There's a significant amount of blood on the sink that if you ever watched any of the coverage of this, it was on Nancy Grace and Jane Velez-Mitchell and all kinds of other cases, they love to show pictures of the sink because there's a variety of different patterns going on there. Some- it looks like passive drops. One of the analysts up

in biology that did the blood spatter believes there's some aspirated blood on the mirror in this case.

Mike Planty [00:18:18] In terms of somebody breathing, breathing it out.

Heather Conner [00:18:21] Yeah, breathing it out. She doesn't see air bubbles, but it has every characteristic of looking like this aspirated blood. So the thought is that he's leaning over the sink at some point and spraying blood quite a bit. So that's- that's one of the more popular photos. And you can find all of these photos online if you're ever interested in looking to go down that rabbit hole, they're all available. What's really interesting is so we do all of our photographs, we collect some of this evidence, and then as we're doing this, we hear a detective go, oh, look what I just found. And they looked down at the floor and to the right of the sink, which would be north the way the house is set up, we find a cartridge case on the ground - was not originally seen as we're going through, and this often happens in these large scenes is that you won't find everything immediately. And we end up finding a- I believe it's a 25-caliber cartridge case on the ground that's expended. No idea that there had been a gun anywhere. There's no evidence of guns in the house or anything like that. And the victim, we don't see a gunshot wound that we can visually see. So we have this cartridge case now and then we know we have sharp force injuries to the victim - as I said, we have something around his neck. The medical examiner's office comes - they have to handle the body in our jurisdiction. We can't handle the body without their permission. They pull him out and we see that the victim has his throat is cut. He has a couple of stab wounds to his upper torso in his chest area. And then they always roll the victim over so that we can photograph the backside, and then when they do that, everybody has this intake of air. I remember it distinctly because we couldn't see his back. And as soon as they roll him over, you see a grouping of stab wounds to the middle upper portion of his back - at least ten, if not more of the stab wounds there. So now we know we've got knife, we've got a cartridge case in the house and who knows what else is going on. So medical examiner takes him away. They do their autopsy. They end up finding three different ways in which Travis would have died. So three fatal types of injuries. One is the throat wounds. It severs both the carotid artery and the jugular vein so that would have caused, the medical examiner testifies, rapid blood loss, rapid unconsciousness, rapid death. He has a stab wound to his upper torso that penetrates the vena cava - that would have caused blood loss, eventual unconsciousness, and eventual death. And then they find upon doing X-rays and further cleaning of the body, they find a gunshot wound to his forehead. The entry wound is just above his right eyebrow and the projectile is recovered from within his left cheek. So the bullet traveled in a downward trajectory to be lodged where it was. And they did recover a projectile that is consistent with a 25-caliber cartridge, similar to the cartridge case we find. That would have caused, according to the medical examiner, rapid unconsciousness and eventual death. So I didn't testify to this - it's outside my purview of expertise - but the medical examiner testifies that the stab wound is first to the chest with the throat wound second, and he testifies that the gunshot wound to the head is postmortem and is the final injury inflicted upon Travis. And that ends up playing a big role in the trial in terms of the charging that happens in the testimony. This was charged as a first-degree homicide, with an- it was death penalty qualifying as being especially cruel and the gunshot wound being postmortem was what made it especially cruel. So that made a big difference in terms of order of events. So we have lots of damage to the victim. We don't recover any guns or a knife in the bedroom. We do, like I said, collect all the knives in the house, although none are ever tied to being the blade in this case. We have the palm print on the wall. We have the hair that's on the floor and we have the camera. Those are really the big items of evidence that matter in terms of forensics that were collected at the scene. We collect over one hundred items at the

scene. There are over a hundred and seventy latent lifts and photos. But the items that matter the most are those that we've just talked about. So and one of the things that was really important, and I mentioned this in the beginning, we spent three full days at this scene. Typically, we would go in the morning or whatever time we got called out and work at- work it until we were done. This scene was just so involved, and we had so many moving parts that we did something we had never done up until that point where we worked it all day. We got until about 11 or 12 o'clock at night and realized there was so much more we wanted to do. We asked if we can maintain the scene overnight and come back the next day. So they sat an officer at the front and back of the house and secured the scene. We came back the next day, worked all day again until eleven or twelve at night and realized we wanted to come back again and continue. And we came back the third day and then finished. And we were there probably until three or four o'clock in the morning on that third day before that house and that scene were released back to the family.

Mike Planty [00:22:59] Yeah, a lot of time there. But even things that one would imagine that you would think of - was this a home invasion, was this a break and entry? Was this a robbery gone bad? No evidence of forced entry, right?

Heather Conner [00:23:10] Not at all.

Mike Planty [00:23:10] No evidence or signs of a robbery because a lot of cell phone, televisions, all those things were still in place. The surprising part for me is maybe because of the roommates moving in and out and having a disconnect to have someone bring those sheets down into the laundry in a different part of the room. But again, it's somebody who probably knows the house and who's in the house and familiarity with that and being able to be comfortable - I got air quotes right there - "comfortable" to try to clean up or to process the sheets and bedding and to do other things knowing that probably nobody was home kind of thing.

Heather Conner [00:23:44] Well, absolutely. It was- it was very fortuitous for her that she happened to show up at the house when the roommates weren't there. She was able to leave before they knew that she was there, and they lived in the house with the victim deceased in the shower for days before he was found. And there was a lot of talk - could it have been a home invasion? Could it have been a stranger that came in and did it? Could the roommates have been involved, and they were investigated, and people still have questions - those that support Ms. Arias have questions. If they don't believe that she was actually the one involved, they- they say the roommates did it and that we didn't investigate them. They were absolutely investigated. We performed luminol testing. There's a large loft that separates the master bedroom suite from the other side of the upstairs where the roommates lived in the other bedrooms. And there was so much blood in the master, the expectation was if they were involved, they would have had to have tracked blood from one side of the house of this loft to the other. And we performed a luminol test along this entire loft and received no reaction. There was no blood found in any of their rooms. We looked at the bathroom that the two of them shared. They were interviewed about their whereabouts. At one point, one of them reported that they had done laundry, which kind of set alarm bells off because if they had done laundry since Travis had gone incommunicado, then how would this camera have been in the washing machine and turned out he had mistaken the date. So there was a lot of investigation done on the two roommates who just happened to not be involved. They were really kind of victims in this themselves. Imagine one of them had only been living there for about four months. The other had only been there for about three weeks. We took over that house

and they- they weren't allowed to go back in for days. They lost their home. We collected their computers. We collected items from their bedrooms. Some of the items that we collected they didn't get back until after the trial was completed. I don't know about you - I wouldn't want to get my computer back five years later with the trial went forward into 2014 and that computer is long since obsolete now. So they- they really suffered in a much more minor way in this case as well.

Mike Planty [00:25:36] Yeah. Yeah, sure. A lot going on there and, you know, just trying to, like you said, sort out all the evidence to exclude folks is just as important as identification.

Heather Conner [00:25:45] Absolutely. Our intent was to just identify who may have touched an item or been present. We don't assign any guilt. It's just a matter of, you know, how can we use this evidence to place a person there, corroborate a story or not?

Mike Planty [00:25:59] Maybe we could turn to the camera because the camera is a really critical point of information. Tell us a little bit about the camera and the fortuitous nature of that.

Heather Conner [00:26:09] The camera really is what I think makes this story so sensational and why it became such a big thing in the media. And it's really- there's some salacious things found on the camera. So our computer forensics portion of the department in the police department is not part of the laboratory, but they work in conjunction with us. So we did the collection, but they do the analysis. They found that the camera did have water damage, which supported our belief that it had gone through a cycle in the washing machine. But they were still able to do analysis on that memory card. And what they found were two sets of photographs. One set of photographs had been deleted, but we're still recoverable. And the other set of photographs were found in the unallocated space. And the way that it has been explained to me is that if any photographs had been taken again on this camera, on this memory card, these images that were recovered would have been overwritten. So we would have lost this data had any additional photographs been taken. And I told you earlier that we didn't know how long Travis had been deceased before he was found. He had stopped responding - it was either Thursday or Friday - and then he was found Sunday night, Monday morning, I believe. And what we found is that there was the set of photographs that were deleted, not the ones in unallocated space, but the deleted photographs were from a certain date and they were all time stamped around the late afternoon. And what they did is they showed Travis alive, that he was in the shower. You could see him. You couldn't see who was taking the photographs, but you could see him. And then there were progressively more photographs. And we got all of the information from the metadata in terms of when they were taken. It wasn't time stamped on the photos themselves, but it was all in the metadata. So that was all done as well to make sure that we had the accurate time of when these photographs were taken. And they were on the last day that anyone had heard from Travis. And the last photograph we have where we can see him is him sitting on the floor of his shower. He's got his arms up on his hands and knees. He's looking directly into the camera. One more of him where you can see his rear on the floor of the shower. And then that's the last you see of him before we get what I call the accidental photographs. And these photographs, we believe, are not taken intentionally. The first one is one where it shows the ceiling of the shower bathroom area and it looks like the camera's falling. Then the next series of photographs are very dark and they required us to do some processing in order to make them visible to the naked eye. They're all upside down. And as our photographic technician is enhancing these photographs, what he finds is this

camera has actually taken photographs of the crime in progress. We've got a photograph of Travis on the ground. You can see his head, his shoulder and his feet. And you can see a large amount of what looks like blood running down from his neck. So we have multiple photographs being taken in sequence that show us exactly when this crime occurred to the point where we can say that it's only a minute and a half after we see him alive thereabouts, that we suddenly see this photograph of him with profuse bleeding out of his neck. We also see some blood on a baseboard in the wall. And what we find in doing some experimentation with the camera is that the shutter on the camera is so sensitive that the belief is that the camera falls to the floor, and as it's rocking, every time it rocks, it snaps a photograph and it just happens to be pointed in the direction that it can capture the scene in progress. Obviously not the knife or gunshot wound itself, but we can see when this happens. So those are the photographs that have been deleted. So now we know when he dies. We know he's been sitting there ever since he stopped responding, but we don't know who was taking the photos. At this time, the case detective, Esteban Flores, is interviewing people. He had gotten a phone call from Jodi Arias to his cell phone almost immediately while we were still out investigating, offering to help in any way that she could. And he was talking to her quite a bit. And he had gotten a story from her that she had not been in Mesa for months and she had moved away. Asked about the camera, she said she was not there, hadn't been at the house. He had asked her to come, hadn't come. What she didn't know at the time that he was asking her these questions is that they have done an analysis of those photographs in the unallocated space. And they were from a few hours earlier on the same day as the ones showing the crime, and they're of Travis and Jodi in bed together at his house with the brown sheets that we find in the washing machine and dryer. So that's how we know where the sheets come from. We have photographic evidence that they're from his bedroom and she's there. They're both naked in some of these photographs. Some of these photographs are very, very explicit and these photographs eventually are shown to her and one of the things she says is, wow, that really looks like me, but I wasn't there. So it's really funny. She keeps getting confronted with the evidence as the investigation goes on and she keeps saying, well, I wasn't there. I wasn't there. The photograph where you see the blood running down from Travis's neck, what you also see in the foreground of the photograph is a pant leg - one of those athletic pair of pants that have kind of the reflective stripe down the side. And this photograph is shown to her and she goes, wow, I have a pair of pants just like that, but I haven't seen them in a very, very long time. These are the types of things she's saying when confronted with all the evidence that she has. They talk about the palm print. Well, I've been in the house before, but she can't account for why a chemical that is used to enhance blood would develop a palm print of hers. So there's a lot of things that she can't explain. So the photographs become a big deal because we're able now to tie her to the scene on the day that it occurred and the day that it actually occurred. There's no more guesswork as to what happened. I don't know why the camera was left behind. I've always kind of hypothesized that it got wrapped up in the items from the bed and thrown in the washing machine by accident. But I don't really know - I'd love to know why that didn't get taken.

Mike Planty [00:31:29] Yeah, that seems like an odd and strange, you know, because the murder weapons, the firearm and the knife were not found.

Heather Conner [00:31:37] Right. I think those will never be recovered.

Mike Planty [00:31:40] In the desert somewhere. And then to leave that, you would think that there was some attempt to cover up the scene, you know, with the washing, the

bleach, the removal of the weapons. And to leave that just seems really strange. It must have been just a mistake, right?

Heather Conner [00:31:54] That's always been my assumption. Obviously, I don't- I don't know the answer to that. But it makes sense to me that it just was an accident. If you're going to take the knife with you, you're going to take the gun with you - there's evidence that there was an attempt to clean up. There's a cardboard box in the linen closet that's in the bathroom hallway that's tiled that shows a significant amount of blood wicking up the side where it looks like a significant amount of water has been thrown down this hallway to try to clean the blood up. And if you're going to spend that time, why not take that camera or take the memory card? I'm guessing that it's just a matter of it got scooped up with everything else and left behind. But it was very significant for the case because we've got someone denying having been there at all, and now we've got concrete evidence that she's there. We have lots of other evidence in the case. Had we not recovered the camera, I certainly think we have enough other circumstantial forensic evidence - we've got the palm print, the hair that I discussed earlier ends up being her hair. The DNA from the root is hers and the blood on it is Travis's. But all of it in its totality is really what gives us the case to proceed with the prosecution.

Mike Planty [00:32:54] Yeah, right. You can dismiss one piece of evidence in isolation, but together it's a comprehensive picture of somebody there during the scene, actively involved in the scene, and so that leads you to some about the motivation for that. And some would say that the stab wounds are suggestive of relationship gone bad. That's pretty common when- where you're not stabbing somebody once or twice, but multiple times. So can you talk a little about the motivation and then her explanations around self-defense?

Heather Conner [00:33:24] Absolutely. So in this case, we talked about it. He has a gunshot wound to the head. We've got a slit throat, although it's more under the chin than his throat. And then he has somewhere between 30 and 33 stab wounds all over his body. There's slashes to the back of his neck, back of his head. There's tons of stab wounds in his back. You've got several on the front. There's a lot of violence in this case. There's a lot of investigation done. I didn't do it, but I can certainly speak to it. As I said, they investigated roommates, they investigated other individuals. But a lot of individuals pointed to Jodi in this case, and they said that she was an ex-girlfriend of Travis's that really had an unhealthy obsession to a certain extent with him, that they had a very dysfunctional relationship, that they both were kind of toxic for each other, and that they weren't together. He was telling friends of his that she was stalking him, but he was also contacting her and maintaining contact with her, but in an illicit way. As a member of the Church of Jesus Christ of Latter-day Saints, he was supposed to be chaste - that's important to the religion that he was a member of - that becomes a kind of a big thing in the case. He had girlfriends, but he was still seeing her on the side. And the thought is that he was going to be going on this- this cruise with another individual, another woman that he was interested in pursuing a relationship with, and Jodi didn't want him to go. A fatal attraction-ish kind of a situation. She really wanted to have a relationship with Travis. He was wanting to pursue this relationship with other females, and she decided that she didn't want that to happen anymore is a lot of the thought in this case. She was living in northern California in a town called Yreka, California at the time - it's very close to the Oregon-California border. And she had to drive to Mesa to meet Travis - that's a significant distance to drive. And then after she went to Travis's house, she went to Utah to meet another guy. Well, the story to detectives was that she never came to Mesa, that she went just to Salt Lake City, met this other guy and never saw Travis at all. That was story

number one. We end up having three different stories in this case. Story number one was I was never there, had nothing to do with it. That's what the story she continues to maintain on the day that she's arrested in July after being indicted by a grand jury. She spends a night overnight at the- at the jail up in Siskiyou County. And the detective does a second interview the next day, and the story now changes. It's, OK. OK, OK. I was there. I didn't kill Travis, though. Two people broke in. They killed him, and I was barely able to escape with my life. I'm lucky to be alive. And I was just too scared to tell anybody because they threatened to kill me if I said anything. She gives a fairly long rambling account. We call this the Mormon ninja story because she says these two individuals come in, they're wearing ski masks and all black, and they shoot Travis. They threaten her. In one interview with 48 Hours on CBS, she says that they tried to shoot her and the gun misfired. She continues to elaborate on the story for months and months and months, but she maintains that, OK, OK, I was there, but I didn't kill him. After that, as things are getting closer and closer to trial - this takes many, many years to go to trial. The homicide was in June of '08.

Mike Planty [00:36:20] Five years.

Heather Conner [00:36:20] Jury selection begins in 2012 and we don't start testimony until 2013. Sometime between, she's arrested and extradited back to Arizona and the trial occurs, she changes her story a third time and it becomes OK, OK, OK. I did it, but I did it in self-defense. He attacked me and I had to kill him. And in addition to that, he's a pedophile, and I did it to save the little children that he could have victimized eventually. So we get a whole new aspect to the case and that actually involves some additional forensic work that's performed. And an anonymous source comes forward and provides to her defense team a series of copies of letters that they purport are written by Travis, where he admits to a bunch of awful things. He admits to abusing Jodi, because now she claims to be a domestic violence abuse victim, the entirety of their relationship. She ends up saying that he kicks her and breaks her finger. He chokes her out one time and that she is consistently a victim of him violently. And in these letters also he confesses to being a pedophile, having feelings for children. These letters are sent to a document examiner at our state crime lab who was very gracious to speak to me about this case. And unfortunately, because they're copies and no originals have ever been found, his analysis was limited. But in analyzing the signatures on these documents, he believes they're forgeries - that they were not written by Travis. The defense tries to get these into court. They have their own document examiner that they hire that does not work for a crime lab in the state, is an independent questioned document examiner, who was going to authenticate them in her testimony, is my understanding, but the judge does not allow them into court. They end up not playing a role in court. They're considered too prejudicial. But there was an analysis done where they are most likely forgeries, but we don't know who wrote them. But that's what she takes to court is the self-defense justification. And that's what the testimony of the trial ends up being. We did tons of forensic work in the case - lots and lots of forensic work. But in the long run, because she ends up admitting to it, even though she says it's in self-defense, we spend very little time on the forensics because she's saying she did it. I spent a significant amount of time playing kind of Vanna White showing evidence to the jury rather than really discussing the analytical work that was performed. But we were prepared. We were ready to go. We had lots of that type of evidence. And had we not spent so much time, who knows if she ever would have changed her story to a self-defense.

Mike Planty [00:38:39] Yeah, I mean, that's a really good point. And to think about the length of time from the incident to the trial and how the changing nature of her defense

really put emphasis on different types of forensic evidence - it might be unique to this case, right?

Heather Conner [00:38:53] Very much.

Mike Planty [00:38:53] You have someone saying, I wasn't there, but I was there, didn't do it to I did it because the nature of the evidence placed her at the scene. It's one thing versus the nature of the incident, and what does the forensic evidence tell you about that? So really interesting change and being prepared - like you said, over documentation - probably aided in your ability to really leverage all the evidence there.

Heather Conner [00:39:18] As the story changes, you don't want to put yourself in a position - any crime scene you approach - complex or what looks like a simple case, all cases can be complex. I've had complex vehicle burglary cases that could be just even more so, more complex than a homicide case. You really don't know where the story is going to take you. So you want to approach each scene in a very methodical manner, you know, do things in a routine, develop a routine where you go in and you're doing things the same way every time so you're- you're documenting the areas you're not thinking about. You're looking up at the ceiling. You're looking behind doors, in cabinets. You're collecting things that you may not realize are important, but you don't want to look, you know, Monday morning quarterback something and look back and say, I wish I collected that and now it's gone forever. This is your shot to do as much as you can because you never know where that story is going to take you. The narrative can change on- on a dime, and you want to make sure that you have everything that you need to give the investigators the information they need to further their cases to try to get to the truth.

Mike Planty [00:40:16] In this case, new evidence appearing, supposedly, around the handwriting just surfaces - when we think about this case, there's so much forensic evidence and it is about not just looking at one piece. While some have more probative value or more evidentiary value than others, it's the collection of the evidence that tells the real story here.

Heather Conner [00:40:36] And it's a collaborative effort not only in the team working the case, but in the evidence that's collected. And that is really important to have this teamwork mentality. I think when you're going to have different disciplines that are going to all have a hand in this pot of evidence - especially if you're in a situation where one type of analysis may eliminate the ability to do another type of analysis - to have that collaborative effort to decide, OK, this is most important for this piece of evidence. And if we collect this, what type of analysis are we going to do and think about those things from the very beginning allows you to further your analysis in the best way possible. You want to collect things that may not be important because they may be important later on - did we need to collect all the items from the dryer? Probably not, but I'm glad we did. If there had been a need to do additional analysis, we had that available. The palm print on the wall in the bathroom - there were many, many photographs taken of it after multiple different processes. But I still cut it out and collected it and brought it back to the lab and did more because there's always a possibility I could have developed more there. And did I need to do it? Probably not, but I'm glad I did. So it's those things where if you- if you're second-guessing yourself, it's so much better to trust your instincts and document it, collect it, have it ready if you need it, than to realize you didn't get something that would have been helpful for the case.

Mike Planty [00:41:54] You had to have a little hoarder mentality in here, right - just collect everything.

Heather Conner [00:41:56] Just a little bit.

Mike Planty [00:41:58] Not too much, right? Yeah, that becomes dangerous. One thing I'd like to touch on briefly before we wrap up is that this case is closed. Jodi is in jail, but you still have this social media presence online where people are revisiting the evidence. What is your perspective on that because it seems like it's going to be a never-ending story?

Heather Conner [00:42:18] I really do feel that way. And it's- it's amazing just how much is still covered in this case. And I get people now, I didn't in the beginning where if I went into a room and said, has anyone ever heard of Travis Alexander? And I would get one or two hands up. And then if I had said, well, what if I said Jodi Arias, all the hands would fall and everybody knew. And now I get a little less of that. You get more people that haven't necessarily heard. But then something will happen, and it will reignite all the interest. There are websites galore out there, a variety of things. There's Facebook groups that are supportive of the victim, supportive of the suspect, or supportive of the defendant. There's an entire website dedicated to the defendant. There was a website for a while that's no longer there that actually went through and took every prosecution witness and gave us credibility scores and then said what are our motivations were. And I only got a five out of ten, and my motivation was I didn't want to upset the citizens of Mesa, so I testified the way I did to frame the defendant in the case because I didn't want to upset the citizens. Every time there's something new, it just reignites everything. She's got a new appeal. In this case, both the lead defense attorney in the case and the prosecutor in this case have since been disbarred or given up their law license. And any time that comes up, it ignites a whole new fervor. I expect that this will continue. They just replayed the Lifetime movie, the highly fictional Lifetime movie that they based on the case - just got replayed recently. I expect this to continue forever. And I think the takeaway is that even in the cases that you may not expect, any case could go global like this. And you never know when you're going to be in a position where they're live streaming your testimony to the world. I had friends from all over the country watching me testify live. There's nothing like having a camera right in front of your face and behind you as you're nervous already to testify in a homicide case and knowing that all of your friends and colleagues, those who know if you don't speak properly about something - the jury may not understand if you misspeak, but your colleagues are certainly going to know if you misspeak - just always be prepared that any of these cases, especially with today's social media environment could become big like this. And it's really important to make sure you've dotted your i's and crossed your t's, and you've done the best job you can because it's going to get put under a microscope at some point.

Mike Planty [00:44:26] So what are the implications on you moving forward with other cases? Does this case and the social media attention, has it ever brought up in other cases, are you always worried about maybe I post something on Facebook - you think an innocuous, not related at all - and people taking that and using it. I guess in general, a lot of people have access to these types of things. And it just makes you wonder how you have to conduct your life in general in this field with the microscope on it.

Heather Conner [00:44:53] I really think I was worried about that in the beginning, and I got a little bit lucky and I hesitate to say this just because it puts it out there, but I had a lot of people - my last name when I was testifying, a lot of the people that would post about my testimony or my work, misspelled my last name. So they don't find me. Not that they're

necessarily looking. And I really think based on what the final story and the narrative of the trial being so not focused on the forensic evidence, I got lucky in that regard. I think if we had stuck with the "I wasn't there" story or the home invader story, the forensics would have been a much larger role and it could have put a larger microscope on- on the lab itself. But we didn't really have that on us. I was very conscious throughout the trial, though. I didn't post about this. I still don't. I present on it. I don't do anything that isn't out there in the public. I've collaborated with some of the investigators and some of the information I have in here. I really try to fact check it - make sure I'm not giving bad information as much as I can. And this case is so out there, I like to make sure that there's a clearer story because if you just rely on those websites, you're not getting a full picture. They like to point out one of the very specific things is they say we found the memory card on the bottom of the washing machine and that we planted that memory card there - the one that had all the images on it. Well, no, I never said it was found in the washing machine. I said that it was within the washing machine, but it was still in the camera. So those are the types of things that in presenting I like to do. But ultimately, this case didn't have that effect. But more and more so, I think you have to be so careful what you're posting on social media. There's a lot of people out there that have a lot of time on their hands and there's a lot of people that are very much into the true crime now that you don't know what type of attention you may end up getting.

Mike Planty [00:46:34] Well, great. I really enjoyed our conversation today. I'd like to thank our guest today, Heather Conner, for sitting down with Just Science to discuss the Jodi Arias case. Thank you, Heather.

Heather Conner [00:46:43] Thank you so much for having me. I truly appreciate the opportunity.

Mike Planty [00:46:46] If you enjoyed today's conversation, be sure to like and follow Just Science on your podcast platform of choice. For more information on today's topic and resources in the field of forensic science, visit ForensicCOE.org. I'm Mike Planty, and this has been another episode of Just Science.

Voiceover [00:47:05] In the next episode of Just Science, we sat down with Brian Dalrymple, a forensic consultant, about his research and impact on the field of latent print identification. 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.