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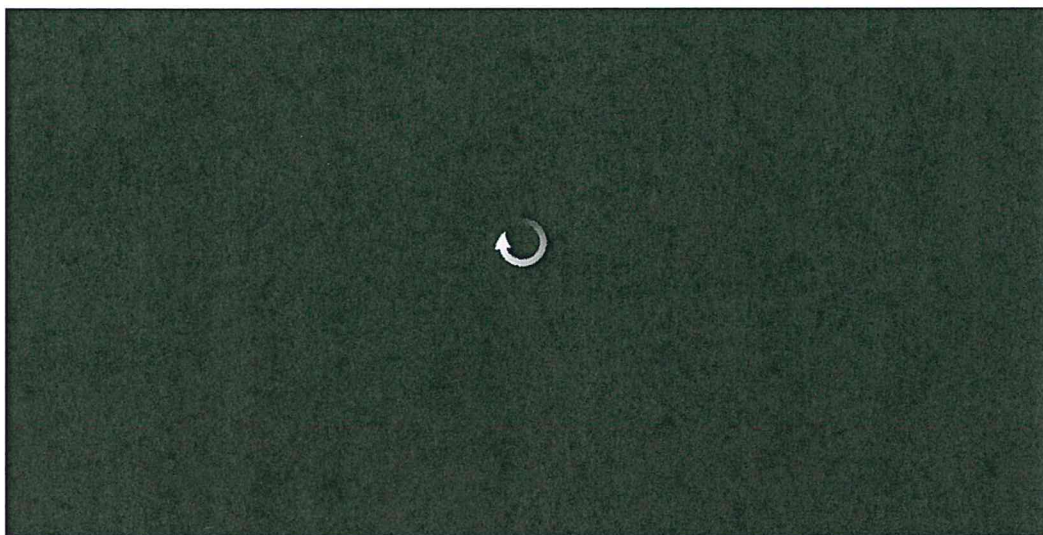
OF NATALEE
HOLLOWAY

MEET THE FORENSIC SCIENTIST WHO'S HELPING IN THE SEARCH FOR NATALEE HOLLOWAY'S REMAINS

by MATT MURO

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Dr. Jason Kolowski explains how he traveled to Aruba to help identify potential burial sites and how he's testing the DNA of discovered bone fragments for a possible match to Natalee Holloway.



On the next episode of Oxygen's "[The Disappearance of Natalee Holloway](#)," forensic scientist Dr. Jason Kolowski goes to Aruba to help Dave Holloway's private investigator TJ Ward in his search for Natalee's remains. The show previously showed footage of John Ludwick, a friend of primary suspect Joran van der Sloot, saying he was [paid \\$1,500 to dig up Natalee Holloway's remains](#) in 2010 and have them cremated. In the clip above, from episode 4, which airs Saturday at 7/6c and 9/8c, TJ Ward wants to know whether John's description of the condition of the remains would be accurate for a body that had allegedly been buried in 2005.

According to John, a burlap bag contained blonde hair and there was a musty odor. When he pulled the bag up there was some dark fluid that settled back into the ground. "Everything that is described as far as the

disinterment of the remains in 2010 fits with what we would expect for the normal decomposition of a human body, especially in this type of environment and this type of a locale,” says Dr. Kolowski.

Perhaps more enticing for TJ Ward, Dr. Kolowski says: “Every contact leaves a trace. That’s a mantra. That’s a tenet within forensic science, and we are always going to be able to go back and find something, something left behind to help us identify that missing individual.”

Dr. Kolowski’s tenet may prove to be accurate.

As **Oxygen.com recently reported**, at least one of four bone fragments that are ultimately discovered through TJ Ward’s investigation on the show came from a single human of Caucasian, European descent—just like Natalee. But while people are eager for the final results, Dr. Kolowski, who is coordinating the DNA testing, says the science takes time.

“I would never want the laboratory to skimp on anything, mainly because there’s a chance that something from this case could develop into a criminal case in the future,” says Dr. Kolowski. “We really do need everything done on the up and up and done with the full compliance and quality checks and quality processes along the way so that nothing can be called into question later on.”

The testing process is time-consuming, according to Dr. Kolowski, because the bone fragments contain mitochondrial DNA as opposed to nuclear. “With nuclear DNA we’re utilizing a technique called PCR, polymerase chain reaction,” Dr. Kolowski tells Oxygen.com. This technique makes billions of copies of the DNA, which can be utilized and analyzed in the laboratory. “When you’re working on nuclear DNA the PCR process is literally one step. It’s very quick. It takes a couple of hours and you then generate all of the data you’d be looking for in the nuclear profile.”

The PCR technique is also utilized for mitochondrial analysis, but multiple rounds must be completed. Scientists amplify certain regions of the mitochondrial DNA they are interested in targeting, and then must sequence the DNA. “So we’ve now introduced a second step that’s way above and beyond what we’d have to do for nuclear DNA,” explains Dr. Kolowski. The sequencing is time-consuming as each and every base in the DNA strand must be read. “Let’s say we have a strand of DNA, you can read it forward and you can read it backward, and you can also start at different locations and read it forward or backward,” Dr. Kolowski says. “So what we’ll do is set up several different reads of the mitochondrial DNA sequence so that each of the individual reads, forward and backward, is an internal quality check.” If the separate reads are put together, he says, and they still look the same, meaning the sequences overlap and they line up perfectly, then the quality control is done.

Dr. Kolowski’s background and experience well-positions him to determine whether the bone fragments will turn out to be a match to Natalee Holloway. He has a master’s degree in Forensic Science from John Jay College of Criminal Justice and a PhD in biochemistry from CUNY in New York City, where he focused on

mitochondrial DNA and the forensic application of mitochondrial analysis. "It just so happens that is exactly the type of analysis that we are doing in this case," says Dr. Kolowski.

Dr. Kolowski worked for 12 years in New York City at the Office of the Chief Medical Examiner in the DNA laboratory, where he helped grow the lab from a fledgling operation of 35 to a staff of 275. "Back in 2001 there was a push to do mitochondrial work," he recalls. "I went to the FBI Academy, and got trained on how to do mitochondrial analysis." After working for the New York City Medical Examiner's Office, Dr. Kolowski became the director of the D.C. Crime Lab, Department of Forensic Sciences. In 2015, he founded Forensic Insight Consulting, LLC. His private firm does case reviews and advises attorneys on data they may have for their cases, and also helps laboratories to improve their processes.

When Dr. Kolowski traveled to Aruba he gave TJ Ward and Dave Holloway an idea of what to look for in a potentially clandestine burial site, including the signs of how a site might appear. "I did a lot of research on the geography and soil and the climate of Aruba to better understand how bodies would break down if they had been buried in different types of soils and regions of the island," he explained.

"When they did uncover some human remains down the road and they happened to be bone samples... that's insane because my actual expertise is mitochondrial DNA above and beyond anything else," says Dr. Kolowski. "To have bone samples present in this case, and to have me as the forensic scientist, it was the perfect storm of all of these people coming together to work on this one particular case with all of the expertise in the right spots."

Watch "The Disappearance of Natalee Holloway" to find out if this perfect storm leads to some closure for the Holloways and catch up on [full episodes on Oxygen.com](http://www.oxygen.com).

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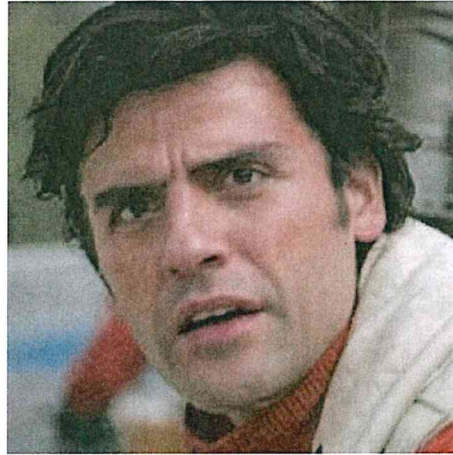
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I can't believe TJ was ready for Gabriel to be arrested with John after they would have nothing without Gabriel's help. In this case he is like the Angel sent from God named Gabriel and they should be grateful to him for ruining his life to help solve the case and bring closure for the Holloway family which they deserve. TJ has made money but Holloway has been extorted over and over again first by Jordan for \$250,000 and now just look at all the fees to hire experts and fly everyone there to stay in hotels with rental cars etc.....

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