

# Nonprofit trying to help lawyers become more scientifically literate

By JAKE THOMAS  
Oregon Capital Bureau

SALEM — When Janis Puracal began reviewing evidence used to convict Nicholas McGuffin of killing his girlfriend, she recalled how it didn't add up.

In 2011, a jury convicted McGuffin, a resident of Coquille, of manslaughter after his girlfriend Leah Freeman turned up dead. In 2014, the Oregon Innocence Project took up his case.

Puracal, then an attorney with the group, noticed how the prosecutor's timeline of events didn't fit with other evidence or alibi witnesses.

She eventually found what would be key — a technical report documenting a DNA analysis in the case. Puracal had an independent expert look at the report's raw data.

The expert discovered that another man's DNA was on Freeman's shoe, which could have proven McGuffin's innocence and pointed to another suspect. But this information hadn't been disclosed by prosecutors.

"Certainly, when we saw it I was complete floored," said Puracal. "I couldn't believe it was exculpatory evidence that hadn't been reported. That was a big deal."

Earlier this month, a judge found that the evidence should have been disclosed at trial and overturned McGuffin's conviction, who was later released from prison.

The victory is the most high-profile yet for the Forensic Justice Project. A small Portland-based nonprofit founded by Puracal last year, the Forensic Justice Project is dedicated to helping defense lawyers understand, find and challenge scientific evidence introduced during trials.

The use of DNA analysis



EO Media Group file photo

The director of the Oregon State Police forensic lab in Bend performs part of the process in examining evidence in a screening room at the lab in 2015.

and other forensic evidence have been increasingly used in courtrooms and is often depicted in TV dramas as indisputable proof of guilt or innocence. But Puracal said that DNA testing or even the use of fingerprints and older techniques are far from flawless.

"A lot of people just think that forensics work like they do on TV, right?" said Puracal. "It gets magic answers in half an hour and solves cases."

Since founding her nonprofit, Puracal has been involved in cases across the state. Now, it could be poised to have a bigger impact on the state's criminal justice system.

In November, the Oregon Office of Public Defense Services signed a two-year, \$600,000 contract with the Forensic Justice Project to provide case support and training to public defense lawyers across the state.

Public defense attorneys can already request funding for forensic experts or analysis from the Oregon Office of Public Defense Services. The training offered by the Forensic Justice Project will

help them ask the right questions and identify potential problems in the evidence.

"Specific forensic issues can be complex, and the science is frequently moving the needle on what is admissible scientific evidence," Eric Deitrick, the office's general counsel, said in an email. "It's incredibly challenging for already overburdened public defense attorneys to keep up with new and changing forensic issues."

Aliza Kaplan, a professor at Lewis & Clark Law School and counsel for the Forensic Justice Project, said that only a few states have similar organizations. She said that the training will teach defense lawyers how to read technical reports, question experts and better understand scientific evidence. She said that "it'll require them to bridge a gap in their legal education."

"Most of us joke that we went to law school to get away from science," she said.

### 'This is a serious problem'

Forensic evidence has been used in some form for centuries and is often based

on the theory of transfer that "when two objects meet, some evidence of that meeting can later be found and verified." In the late 1800s, a fingerprint was first used to solve a crime and doctors examined the victims of Jack the Ripper for wound patterns. But in recent decades such methods have been questioned.

Marc Brown, chief deputy defender for the Public Defense Office, pointed to the case of Brandon Mayfield, an Oregon attorney who in 2004 was arrested by the FBI over allegations he was involved in fatal train bombings in Spain. His arrest was based on digital images of partial, latent fingerprints found at the scene. Subsequently, the FBI determined that the fingerprints didn't match.

Mayfield was exonerated and the FBI apologized. Brown said the case prompted a closer look at forensic evidence.

The National Academy of Sciences said in a 2009 study that local forensic science facilities were understaffed and underfunded and they worked with no established

standards.

The study also found that with the exception of DNA analysis, no method could consistently link suspects to evidence.

"The simple reality is that the interpretation of forensic evidence is not always based on scientific studies to determine its validity," the study found. "This is a serious problem."

A 2016 report by the President's Council of Advisors on Science and Technology called for standards forensic methods.

The next year, Kaplan and Puracal published their own paper that described wrongful convictions based on faulty forensic evidence, including one case where a dog hair was mistaken for a suspect's. The paper also mentioned the case of Phillip Scott Cannon, who was convicted of murder in 2000 in Polk County. He spent 11 years in prison before a court found that an expert mistakenly matched lead in the bullets found in the victims to lead in an ammunition box in Cannon's home.

Kaplan and Puracal concluded that despite the two national studies, defense lawyers still weren't challenging questionable forensic evidence.

They are unsure how many cases in Oregon involve questionable forensic evidence. Brown also said it's hard to gauge how many cases deserve scrutiny in Oregon because of the state's fragmented public defense system.

Puracal said that there's no way to know how many cases like this are out there unless someone goes out and looks for them.

"That's what we're doing," she said.

### Good science in the courtroom

Puracal said that one problem that frequently comes up is expert testimony that goes beyond what the science sup-

ports. She said that sometimes experts seem wedded to a conclusion or aren't up to date on the science.

She said that's particularly important for DNA analysis. She said that the amount of DNA that can be tested for has gotten smaller. While useful, she said smaller amounts opens up the possibility of contamination or multiple people's DNA getting mixed.

"The jury gets captivated by forensic science," said Puracal. "You come in with an expert and it's impressive and the jury will defer to that expert. And that means that we need to make sure that good science is coming into the courtroom and not leading to wrongful convictions."

Brown said that the earlier studies of forensic evidence questioned long-established "comparison analysis" using evidence as bite marks, tire tracks or footprints to prove a suspect's guilt.

He said that while less of this evidence is being used in Oregon courts, there are still problems. He said there's no statewide standard for how fingerprints are used. He pointed to a 2016 appeals court case involving a woman who was convicted of burglary on a single fingerprint left on a bottle. The bottle — and the fingerprint evidence — was discarded by police and the case remains under appeal.

Puracal said that the Forensic Justice Project will focus on cases involving DNA as well as diagnoses of abusive head trauma, commonly known as shaken baby syndrome. She said that experts will often testify that they are certain a child was abused rather than injured by an accident.

"We know that a baby could be abused," she said. "But the problem is that the science doesn't tell us that this baby was abused and not injured by some accident or some disease or disorder."

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