

# Forensics specialist discusses a discipline in crisis

Lawyers and scientists need to talk, says Niamh Nic Daéid.

Daniel Cressey

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Strathclyde University

Forensic researcher Niamh Nic Daéid brought together scientists and legal experts in a meeting in London.

Solid scientific evidence can be crucial for solving crimes. But science may have been progressing too fast for the courts and the juries to keep up. The problem was symbolized by a ruling last year in which Mark Dwyer, a judge of the New York State Supreme Court, declared that a forensic-analysis technique known as low-copy-number DNA testing was inadmissible because there was no consensus in the scientific community that it was valid forensic tool. The technique, which consists of amplifying very small amounts of DNA to obtain a profile, has been used to get convictions in various countries but has been criticized as being susceptible to contamination and having problems with reproducibility.

To help to bridge the divide between law and lab, leading forensic scientists held a meeting with senior legal experts in London earlier this month.

*Nature* spoke to Niamh Nic Daéid of the University of Dundee, UK, who co-organized the meeting with fellow Dundee forensics expert Sue Black. One of Britain's leading forensic scientists, Nic Daéid works at Dundee's Centre for Anatomy and Human Identification (CAHID), and specializes on drug-trade, terrorism and arson investigations.

## What is the current state of forensic science?

We're really at a point of some level of crisis in the relationship with the core sciences that should underpin each of the different aspects of the discipline. That was exposed very starkly in 2009 by the US National Academy of Sciences (NAS) when they produced a report called *Strengthening Forensic Science in the United States*. The NAS report essentially exposed the different aspects of various forensic-science disciplines that we use as having very little scientific foundation. It was the first time this was really exposed overtly to the forensic-science community and the wider community. The real problem is that things haven't moved on since then.

## Why haven't things moved on?

In my view, we seem to be doing research to find new widgets for the police, new tools for them to use in the investigative phase, rather than underpinning what we've already got. What we haven't done as a research community in general terms is listen to our other end-users, the judiciary. What we end up doing is making fantastic tools for our investigators, which our judiciary might not be completely content with in terms of the grounding of the science.

## So the courts just don't trust some of these forensic techniques?

I think that's increasingly occurring. For example, in the United States a judge [Mark Dwyer] refused the admission of DNA evidence in his courtroom because of the current debate in the forensic-science literature. That's really worrying.

In the same light, there are some other evidence types that the judiciary and the juries have a real problem with: for example, in the UK, ear-print evidence is one. The judiciary are certainly concerned about some of the evidence types that are appearing in their courtrooms. That's borne out by the rulings they are making.

## What can be done to change things?

What Sue and I are attempting to achieve from this meeting is both a closer and more open dialog between science and law. So the scientists can explain their science to the lawyers, and the lawyers can openly challenge us on the robusticity of our science.

My experience so far — and my firm belief — is that people are actually quite understanding of the fact there is an issue. And there is a real appetite now for the research scientists and also for the judiciary to work together in identifying the areas of science that are concerning and in trying to work together to resolve those issues.

