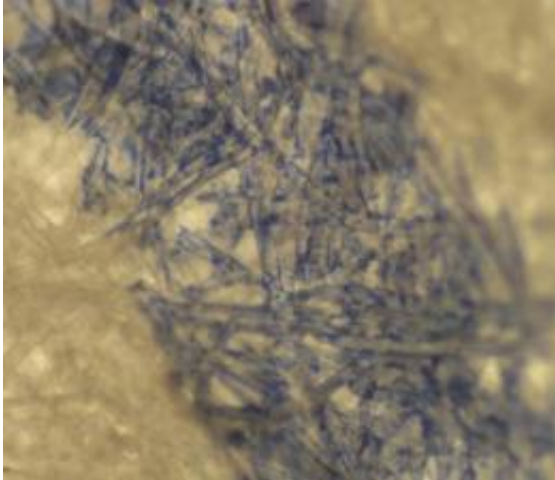


Single fibre betrays forger's dirty deed

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Flinders University's latest advance in forensic science should send a chill down the spines of would-be criminals.

A team of forensic and analytical chemistry students and staff have been able to establish that a receipt was forged by demonstrating that inks from different ballpoint pens were evident on single fibres of paper.

The novel technique – in which fibres were extracted under a microscope using a piece of tungsten wire and tweezers with super-fine points – has the potential to revolutionise forensic and medical investigations which usually require much larger samples.

The research, undertaken by student Broderick Matthews and published in the prestigious journal *Forensic Science International*, has earned the recognition of the National Institute of Forensic Science (NIFS) which recently named it Best Case Study published in 2011.

Associate Professor Stewart Walker, Director of the Centre of Expertise in Energetic Material at Flinders, said the method had the added advantage of being virtually non-destructive.

“Until now, ink analysis samples were obtained by cutting a 5mm by 8mm piece of paper or punching a 1.25mm hole in the document,” Associate Professor Walker said.

“Obviously people who have got old documents or paintings don’t want you to come along and cut a bit out,” he said.

“We’re able to take a single [fibre](#) so that, to the naked eye, you could not see that there had actually been any sample taken away.”

The method, which lends itself to the analysis of all manner of fibres and chemicals, including drugs, hair or explosives, is the subject of further ongoing postgraduate research at Flinders.

Mr Alastair Ross, Director of the ANZPAA National Institute of Forensic Science, attended a reception hosted by Professor Ross Vining, Director of Forensic Science South Australia, where he presented the annual NIFS best publications awards.

“I am pleased to come to South Australia to present these important awards which demonstrate the importance of collaboration between forensic laboratories and universities,” Mr Ross said.

Associate Professor Walker said the awards also highlighted the

importance for academics to collaborate with forensic laboratories.

“We could fire lasers into instruments with long names and it wouldn’t mean a thing unless we could show that it has a practical purpose,” he said.

“It is really pleasing to get this award for a case study because we have shown we can do something neat with LDI-ToFMS (laser desorption ionisation time of flight mass spectrometry) and then we have shown it can be used on real samples and, finally, it has been used in a real case,” he said.

“This illustrates the dual importance of academics assisting with new analytical equipment and new techniques and forensic practitioners keeping us focused on real forensic investigations.”

More information: [www.sciencedirect.com/science/ ...
ii/S0379073811001630](http://www.sciencedirect.com/science/.../S0379073811001630)

Provided by Flinders University

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