B.J. Jones
"Commentary on "Evaluation of Shooting Distance by AFM and FTIR⁄ATR Analysis of GSR" Mou Y., Lakadwar J., Rabalais J.W., *J. Forensic Sci.* 2008; 53:1381-6"
*Journal of Forensic Sciences* **54** (2009) 502

***Archive Version***. Official version available online at **http://www3.interscience.wiley.com** or via DOI **http://dx.doi.org/10.1111/j.1556-4029.2009.00989.x**

**Commentary on** "Evaluation of Shooting Distance by AFM and FTIR⁄ATR Analysis of GSR" Mou Y., Lakadwar J., Rabalais J.W., *J. Forensic Sci.* 2008; 53:1381-6

Sir,

The above paper highlights the use of atomic force microscopy (AFM) as a component technique for a possible new method of analysis of gunshot residue. The authors point out the non-destructive nature of AFM over the more routinely used scanning electron microscopy (SEM), which operates in vacuum and often requires the application of an additional conductive layer. However, AFM carries its own disadvantages: the image is obtained from a combination of the surface morphology of the sample to be studied and the shape of scanning probe tip. In many cases the effect of the tip shape can be discounted as negligible; however, there are particular problems when studying fine powders as one or more particles can become attached to the probe, significantly altering the size and shape of the imaging tip. This phenomenon can be manifested by an image mimicking the shape and orientation of the particle-probe combination repeatedly appearing over the image of the sample surface. This can significantly distort the resultant image and subsequent analysis, and is the potential origin of some of the novel particle shapes highlighted in this paper.

Benjamin J Jones PhD
Brunel University – Experimental Techniques Centre
Kingston Lane, Uxbridge
Middlesex UB8 3PH, UK