



## Criminalistics Section – 2010

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### A107 Raman Spectroscopy of Pigmented Fibers

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After attending this presentation, attendees will understand where pigmented fibers are encountered, the importance of differentiating

between dyed and pigmented fibers, and the usefulness of Raman spectroscopy in identifying pigments found in fibers.

This presentation will impact the forensic science community by showing that Raman spectroscopy is a useful technique for the analysis of pigmented fibers.

Fibers are a type of trace evidence sometimes found at crime scenes. Analysis and characterization of these fibers may be pertinent to an investigation. Dyed fibers have been successfully analyzed using techniques such as microspectrophotometry and thin-layer chromatography. However, a successful technique for analyzing pigmented fibers has not been established. This study will show that Raman spectroscopy can be used to identify the pigments in such fibers.

Standard pigment samples will be obtained from manufacturers and used to verify the methods as well as for comparison purposes. Pigmented fiber samples will be obtained and subsequently analyzed using Raman spectroscopy. From this analysis, the specific pigments in the fibers will be compared to standards and identified. This will show that Raman spectroscopy is a useful technique for analysis of pigmented fibers.

**Raman Spectroscopy, Pigment, Fibers**