



## Questioned Documents Section – 2004

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### **J15 Development and Enhancement of Shoe Impressions on Paper Found at the Crime Scene by Using the ESDA Machine and Adobe® Photoshop® 7.0**

*Ramses Alvarez, MA\*, and Ramon O. Diaz, MA, Forensic Science Institute of Puerto Rico, PO Box 11878, San Juan, Puerto Rico 00922-1878*

The goal of this presentation is to present to the Forensic Community the use of the ESDA (Electrostatic Detection Apparatus) in the development and enhancement of shoe impressions on paper found on different surfaces such flooring, rubber mat and on a textile rug. Also, crime scene investigators will work closely with the forensic document examiners.

This presentation will impact the forensic community and/or humanity by demonstrating an ESDA instrument which can be utilized in capturing other types of surface impressions such as shoe impressions on paper that can reveal class and individual characteristics and lead the investigation and possibly link a suspect with a particular crime scene.

The Electrostatic Detection Apparatus, commonly called ESDA, is an instrument manufactured by Foster & Freeman of England and primarily used in the development of indented writings, marks, finger and palmprint impressions usually found on paper.

By utilizing the ESDA instrument we can develop shoe impressions on paper stepped on when found on a hard surface, rubber mat or textile carpet.

In a simulated crime scene case, several pieces of paper were found on the floor, on a rug and on a living room floor textile carpet. Since it was a breaking and entering case of a private home committed by one or more individuals, the paper evidence was collected by evidence lab technicians and sent to the criminalistics lab for examination and analysis.

The ESDA results demonstrated faint shoe impressions appearing on the evidential paper surfaces. To enhance the faint shoe impressions on said paper we used Adobe® Photoshop® 7.0, where it was enhanced, demonstrating clearly class and individual characteristics of shoe impressions found at the crime scene.

**Criminalistics, Shoe Impressions, Evidence**