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ABSTRACTS

1. Figuring It Out
Audrey Giles

Identifying records of drug dealing transactions inevitably leads to the examination of scraps of paper bearing only figures. In order to assess how variable individuals are when writing figures, a number of writings were classified and the number of variations assessed. Some figures, for example, the figure 4, proved to be a better indication of authorship than others.

2. Diode Array Micro Spectrometry of Colour Ink-Jet Printers
Williams David Mazzella

Ink-jet printed documents, produced on 70 different brands and models of ink-jet printers available on the European market were analyzed by a micro spectrophotometer (reflection mode) using a diode array detector. The research focused on the measure of the reflection spectrum between 380 and 760 nm. Only the magenta and the cyan colours were measured since the yellow, according to a preliminary study, does not have a significant variation and subsequently was not analyzed. For each colour analyzed, three measurements were made and the mean was calculated. The results obtained enabled us to create a database. Such a database can be used to identify a particular model of printer (or group of models) used to print a forged or counterfeit document. The problems encountered due to the paper stock and compatible ink cartridges (non-OEM cartridges) are also discussed.

3. A Close Look at the Significance of Margin Drift: What Does It Really Tell Us?
Robert Bey and Dennis Ryan

Many times the Forensic Document Examiner (FDE) is called upon to examine documents where there are multiple signatures of one individual. The question put forth to us as experts is, "Were these signatures executed at one sitting or were these signatures written on different occasions?" In order to answer this question, an FDE may look at a phenomenon called "margin drift" and use this as a factor in arriving at their conclusion. The critical problem that arises for the FDE is: How much weight do we give to this phenomenon? Moreover, can margin drift be a significant factor in indicating that a group of signatures were written during one sitting? This is the problem put forth in this paper.

4. A Review of the Spectrometer and Chromaticity Capabilities of the VSC 2000
Tobin Tanaka

Differences between inks are often observed by Forensic Document Examiners (FDEs) through the use of infrared (IR) reflectance. Such differences are observable in real time with CCD cameras and appropriate filters on such coupled instruments offered by Projectina and Foster + Freeman. These differences in IR reflectance are usually observed and distinguished through qualitative analysis. Until recently, quantitative analysis could be accomplished but would require extension manual collection of data, subsequent statistical processing, and plotting of data points. The VSC 2000 offers an automated system which yields quantitative data useful in the discrimination of inks. A brief explanation of the utility and limitations encountered will be discussed.

5. Shandon Xylene Substitute in Document Examinations
Gary Licht and Jerry Brown

A variety of practical applications were found for Shandon Xylene Substitute in the examination of questioned documents. This product is marketed as a non-carcinogenic substitute for xylenes, but does not have quite the same properties. The most useful properties of this xylene substitute are that it is non-destructive to inks, paper and plastics, is less volatile than xylene, and is only a weak solvent of correction fluids. Its principle uses here have been to make paper translucent, thereby allowing obliterated writings to be read through the back side of the page. This translucent state also allows infrared examinations through the paper. Applications were made to cases involving obliterations made with correction fluids, overwritings, ink, and multiple layers of these materials. Shandon Xylene Substitute does not affect indented writings and ESDA examinations. It evaporates without leaving any odor, discoloration, or distortion.

6. A Method for Determining the Condition of an ESDA or IMEDD
Dan Purdy, B.Sc., F.S.S. Dip.

Many document examiners have taken steps to prepare their laboratories for accreditation. One important requirement of this process involves the testing of equipment to ensure it is in good working order and capable of providing quality results. Two instruments used to decipher indented impressions on paper are the Electrostatic Detection Apparatus (ESDA) and the Indentation Materializer Electrostatic Document Device (IMEDD). The results produced by these instruments can vary due to a number of causes including: unfavourable ambient conditions (low relative humidity), weak corona discharge, a dirty corona wire, insufficient application of toner and weak pressure generated by the vacuum pump. A simple device is described that enables the ESDA or IMEDD operator to repeatedly produce constant impressions on paper test strips. The test strip is subjected to the same experimental conditions as the questioned document and is placed on the platen each time the instrument is used. The degree to which impressions on the test strip are recovered is a function of the ambient conditions and the instrument's condition. If test results lie outside an acceptable range, the instrument must be repaired or the test postponed until environmental conditions are favorable.

7. ESDA Cascade Developer
Melvin Henry Cavanaugh, Jr., Barbara L. Torres, and Wesley P. Grose

This paper provides additional information for use of the ESDA.

8. Write-On™: A New Tool for Handwriting Comparison
Linton A. Mohammed

Write-On™ is an innovative software program that was developed to aid document examiners in cases that include extended handwriting. Searches for comparable words, letter combinations, and characters can be done. The results of these searches are documented and they can be used to develop statistical data to support the analysis and opinion. The program's chart-making facilities are a sophisticated alternative to traditional cut-and-paste techniques. Write-on™ is quite versatile and can be used in cases consisting of two documents or hundreds of documents.