

# Abstracts

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## **A Study on the Influence of Wearing a Glove on Handwriting by Chinese in Hong Kong (Yau-Sang Patrick Cheng)**

A person's writing might be affected by a number of factors. These factors could be internal or external. This paper investigates the effects of wearing a glove when writing English cursive and block letters, Arabic numerals, Chinese, and when drawing geometric figures. Three types of gloves were chosen for the study: disposable glove, thin cotton glove, and thick cotton glove. Writing characteristics, line quality, and fluency of writing were not affected to any appreciable extent by the wearing of the 3 types of gloves. However, the influence of glove wearing on handwriting did affect writing pressure, size of words, word spacing, line spacing, and margin relationship. In addition, occasional pen slips and awkward lettering and strokes were noted in some handwriting samples. The results serve as a reference for document examiners when examining handwriting of a person writing or suspected of writing while wearing a glove(s).

## **Forensic Image Analysis of Laser-Printed Documents (Williams D. Mazzella, MS and Raymond Marquis, MS)**

A preliminary study was undertaken to determine if objective measurements, using a proprietary image analysis system, may be routinely applied for the analysis of electrophotographic-printed documents, in particular laser-printed documents. Text and dot-quality objective measurements were studied to differentiate printed outputs. This paper highlights the complementarity of forensic image analysis to classical methods employed for the analysis of laser-printed documents. Some practical tests were prepared and discussed. Discriminant analysis correctly classified the samples from the tests, thus demonstrating that forensic imaging analysis is realistically applicable in closed-set cases (where the number of potential laser printers can be clearly defined) and in page-substitution cases.

## **Design and Security Features of the Euro Carl R. McClary**

The largest monetary changeover in Europe's history occurred on January 1, 2002, when 12 European Union (EU) countries converted their national currencies to a common monetary policy. With this conversion, sophisticated design and security features were implemented, together with counterfeit tracking. Although counterfeits rose remarkably within the first few years, they are now considered stable. Since 2002, 13 out of the 27 EU countries have withdrawn their own notes and coinage from circulation and replaced them with the euro. The changes were not without controversy. However, the result is a more unified Europe and better integration in world financial markets. This paper will describe the latest security features such as foil, printing, watermarks, and holograms found in the new currency. Familiarity with the design and security features of the euro will assist the document examiner in the examination of counterfeit currency or in providing basic information for investigative purposes.

## **Invisible Ink: A Refresher for Document Examiners James L. Streeter, Greg P. Kettering, and Kenneth B. Zercie**

With recent publicity concerning imprisoned gang members using invisible ink to communicate instructions for murdering rival gang members, it is anticipated that other inmates will "copy-cat" this "secret communication" technique. This paper reviews the history of invisible ink, discusses materials most commonly used in correctional facilities to produce invisible inks, and explains the various methods for identifying and developing the writing produced by these substances.

## **Voltage and Indentation Development Tobin A. Tanaka**

Electrostatic detection devices (EDDs) utilize charging to visualize indentations on documents. In this study, a voltage probe was used to measure the characteristics of the voltage at the surface of the film covering the document to better understand this electrostatic phenomenon. The ultimate objective of this research was to enable document examiners to obtain better development of indentations. This initial work demonstrated that such measurements are useful for controlling the extent of charging the film.