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The Analysis and Dating of Ink Dyes of Forensic Interest

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ABSTRACT

The analysis of writing inks is an important part of forensic questioned document analysis. Forensic scientists are often called upon to determine if a particular writing instrument could have written a document. There has also been increased interest in determining the age of a questioned document. One approach to this problem has been to follow the degradation of pigments and dyes in the inks used by writing implements as a function of time. We have been using Laser Desorption Mass Spectrometry (LDMS), a derivative technique of Matrix Assisted Laser Desorption Ionization Mass Spectrometry (MALDI). This talk will describe methods for characterizing inks in writing implements and the use of LDMS to track the aging of ball point pen inks. In addition I will describe the analysis of a new class of inks, called “pigmented inks” that are now widely used in ink jet printers and gel pens.

About our speaker:

Dr. Jay Siegel is Professor and Director of the Forensic and Investigative Sciences Program at Indiana University Purdue University, Indianapolis. Prior to this appointment, he was Director of the Forensic Science Program at Michigan State University where he retired after 25 years. Before that he was Professor of Chemistry at Metropolitan State College in Denver, CO. Prior to that appointment he spent three years as a forensic chemist with the Virginia Bureau of Forensic Sciences where he analyzed illicit drugs and trace evidence. Dr. Siegel has testified as an expert witness more than 200 times in seven states as well as Federal and Military courts.

Dr. Siegel is a Fellow with the American Academy of Forensic Sciences where he was awarded the Paul Kirk Award for outstanding service to the Criminalistics section in 2005. He is also a member of the American Chemical Society, the Midwest Association of Forensic Scientists and the Forensic Science Society (UK). He is a member of the International Association for Identification and an Academic Affiliate member of the American Society of Crime Lab Directors.

Dr. Siegel is an active researcher in forensic science with many scientific publications. He currently serves as the principal investigator on a research grant from the National Institute of Justice on ink analysis, his second grant for this work. He is also the author of two textbooks in forensic science and is the editor in chief of the Encyclopedia of Forensic Sciences.
