

## Today's Presentation

**Program:** Science of Forensic Document Examination

**Speaker:** Diane K. Tolliver      **Sponsored by:** Dr. Alan D. Schmidt

**Introduced by:** Dr. Alan D. Schmidt

**Attendance:** 108

**Guests:** Mitchell Steckur, Matt Brennan, Tom Hall, Rhonda D. Maw, Ed Turissini, G. T. Keener

**Scribe:** Hank Wolfla

**Editor:** Carl Warner

Today's talk was given by Diane Tolliver of Tolliver Forensic Services, LLC in Danville, Ind. Diana was a forensic document examiner - FDE - for the Indiana State Police Crime Lab for over 30 years, and she now provides this service through her company Tolliver Forensic Services. Forensics is the application of science to the courtroom and is used by scientists and attorneys in the legal system. Diane has dealt with over 300 prosecutors, defense attorneys, and judges. She asked which of the 92 counties in Indiana provided her division of the state police the most work? It was not Marion, but Lake County.

A Document is anything that conveys a message: information, facts, thoughts, etc. She mentioned that anything could include a bathroom stall, tennis balls, trash bags, lottery tickets, and letters. Not only are forensic documents examined for what is on the document but for DNA material as well.

An examiner is a person who applies scientific and analytical techniques during examinations. The FDE skill is learned by working with a recognized expert for 2 to 4 years, and an examiner must have a working knowledge and competency of a wide variety of examinations. Presently there are only two universities offering a degree to become an FDE.

Diane then talked about the ability of light to provide information. There are 5 actions of light: reflection, absorption, color, transmittance, and luminescence. An instrument called a Video Spectral Comparator (VSC) is used to provide different ranges of light spectrums, intensity, and color to examine documents. Shredded paper is reconstructed manually based on color difference, printing characteristics, optical properties under UV or infrared light, handwriting, etc. Papers have different binders, fillers, internal sizing, coloring materials, and fluorescent brighteners. Other qualities of papers include the size, color, gloss, opacity, thickness, brightness, smoothness, and fiber analysis. Along with the physical examination of paper or other documents, the torn edges of the document can provide very useful information. Lastly, the use of the traditional watermark is still employed in formal documents.

Next follows the decipherment examination of a document. What was the content of the original writing? Along with decipherment comes the ability to make handwriting comparisons. The principles of handwriting are based upon the principles of uniqueness. This is because all objects in the universe are unique. Nature never repeats itself, and nature exhibits an infinite variety of forms. Principle testing is done through observation, experience, and research. The ability to discriminate the differences depends on the quality and quantity of the characteristics and skill of the person comparing the documents. The electrostatic detection device (EDD or ESDA) is used to study indented entries on a questioned document.

Diane provided an excellent overview of the life of a working forensic document examiner and all the many scientific skills needed. She also provided the club with some real-life cases that were solved using document examination with this very special skill set.



Diane Tolliver (photo from LinkedIn)