

WORKSHOPS

Pre-Registration Required by Jan. 30

W2 Implementing Magnetic Flux Measurements for Forensic Document Examinations

Monday, February 13, 2023

8:30 AM – 5:00 PM

CE Hours: 5.75

Learning Overview: After attending this workshop, attendees will be able to recall and discuss the scientific theory which underlies the instrumentation involved with magnetic flux measurements. They will be able to explain what magnetic properties toner has, and how they can be measured. Attendees will be able to prepare a laboratory setup with a magneto-optical imaging device and identify critical variables in the laboratory design which could impact instrument function. They will be able to follow the methodology provided and operate the instrument to collect magnetic flux measurements from different toner samples. Attendees will be able to evaluate the results that they obtain to determine if there has been any type of error or if there is bias. Attendees will be able to interpret the significance of the results.

Impact Statement: This workshop will impact the forensic science community by providing Questioned Document examiners with the knowledge, skills, and abilities necessary to deploy a new methodology for examination of toner printed documents in their laboratories. This methodology has been found to meet the needs of the community as stated, being rapid, non-destructive, and cost-effective.

Program Description: In this program, attendees will learn about the foundational theory behind magneto-optical imaging devices (MOIDs) and magnetic flux measurements of toners, as well as the variables which must be considered when developing a method for forensic laboratory use, and afterwards will get hands-on experience with instrumentation. During the hands-on portion of the program, attendees will learn how to set up the workspace and instrument, how to operate the software associated with the MOID, and how to conduct magnetic flux measurements of different toner samples (including text samples, point samples, and text insertion samples). The attendees will then be able to independently conduct measurements on provided samples to demonstrate their proficiency with the instrumentation and methodology that they have learned. Finally, as a group, the attendees and instructors will evaluate the results of the independent measurements. At this stage, the attendees will learn how to evaluate and interpret the significance of the results which they obtain from the instrument, and how to assess if the data has been affected by any of the variables discussed during the theoretical session.

Chair:

Carrie Polston, PhD

Universite de Lausanne

Lausanne, Vuad, SWITZERLAND

Co-Chair:

Zain Bhaloo, MSc

Canada Border Services Agency

Ottawa, Ontario, CANADA

Target Audience: Questioned Documents

Knowledge Level Required: Basic

Program:

8:30 AM – 10:00 AM **Section 1: Theory**
Carrie Polston, PhD; Zain Bhaloo, MSc

10:00 AM – 10:30 AM **BREAK**

10:30 AM – 12:00 PM **Section 2: Implementation**
Carrie Polston, PhD; Zain Bhaloo, MSc

12:00 PM – 2:00 PM **BREAK**

2:00 PM – 3:00 PM **Section 3: Evaluation**
Carrie Polston, PhD; Zain Bhaloo, MSc

3:00 PM – 3:30 PM **BREAK**

3:30 PM – 4:15 PM **Section 4: Questions & Discussion**
Carrie Polston, PhD; Zain Bhaloo, MSc