Introduction to Quantitative Systems for Forensic Handwriting Comparisons

JoAnn Buscaglia, PhD
FBI Laboratory, CFSRU
Measurement Science and Standards in Forensic Handwriting Analysis
NIST, Gaithersburg, MD, June 4, 2013
• Names of *commercial manufacturers* are provided for information only and inclusion does not imply endorsement by the FBI or the U.S. Government.

• The views expressed are those of the authors and do not necessarily reflect the official policy or position of the FBI or the U.S. Government.
Why Quantitation?

• *Daubert* challenges to validity of forensic handwriting comparisons
  
  – Objective measurements and statistical analysis are used to support the scientific basis of forensic handwriting identifications.
  
  – Addresses NRC 2009 recommendations
Individual characteristics of a person’s handwriting have been used for writer identification for over 150 years. 

- Automated identification, extraction, and statistical analysis of handwriting’s features is a (relatively) recent development.
- Automation is needed to generate large amounts of quantitative data for statistical evaluation of the individuality of handwriting.

Automated system(s) for FDEs similar to AFIS for LPEs

- New capability will permit cross-case comparisons of handwriting, possibly identifying linked cases and serial crimes.
Operational Impact

• Increased throughput/ backlog reduction
  − Sort and process large numbers of handwritten pages
  − Search through large databases of reference writers, identifying
    the most probable potential writers for manual examination
  − Identify multiple writers in a collection of documents

• Connect seemingly unrelated cases
  − Improving solvability

• Statistical support for continued court acceptance of handwriting comparisons

Unclassified
Automated Systems

- FISH
- Wanda
- FLASH ID
- CEDARFox and iFox
- D-Scribe
- SIFT
- Others?
Questions?

JoAnn Buscaglia

JoAnn.Buscaglia@ic.fbi.gov