Essentials of Latent Print Examination: Establishing Admissibility

Syllabus & Bibliography

There are two primary domains of knowledge that support the validity of latent print discipline: 1) science demonstrating the discriminating power of friction ridge impressions and 2) science demonstrating trained analysts are capable of providing accurate conclusions. While many analysts learn this information as part of training, they often struggle articulating these complex concepts to the trier of fact.

This intense five-day course will review key concepts and research underlying both domains that can be used to support latent print admissibility. The instructor will facilitate discussions and mentor attendees. Attendees will devise questions and answers covering the concepts and practice testimony. A court case illustrating real-world application of these testimony methods is woven throughout the week. The content of the course is organized into four blocks that logically build on one another to promote learning. Each block is reinforced with a testimony practical.

Day 1

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>0800 – 0930</td>
<td>Course Overview and Introduction</td>
</tr>
<tr>
<td>0930 – 1200</td>
<td>Empirical Observations – History, Biometrics, and Professional Organizations</td>
</tr>
<tr>
<td>1200 – 1300</td>
<td>Lunch</td>
</tr>
<tr>
<td>1300 – 1500</td>
<td>Theoretical Knowledge (Biology) - Developmental Noise – Establishing Uniqueness</td>
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<tr>
<td>1500 – 1700</td>
<td>Group Work #1 – Scenario: Develop a line of questions &amp; answers to lay foundation for admitting fingerprint evidence using empirical knowledge (history, biometrics, and professional organizations) and theoretical knowledge (biological concepts).</td>
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Day 2

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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>0800 – 0900</td>
<td>Feedback Session for Group Work #1</td>
</tr>
<tr>
<td>0900 – 1000</td>
<td>Testimony Practical #1</td>
</tr>
<tr>
<td>1000 – 1100</td>
<td>Twin Studies – embryological development of twins and studies measuring the similarities and differences of twin fingerprints</td>
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<tr>
<td>1100 – 1200</td>
<td>Modeling in Science and Elements of a Robust Fingerprint Model</td>
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<tr>
<td>1200 – 1300</td>
<td>Lunch</td>
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<tr>
<td>1300 – 1400</td>
<td>Historical Fingerprint Models and Pattern and Minutiae Distribution Studies</td>
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<tr>
<td>1400 – 1500</td>
<td>Modern Statistical Models – recent statistical models measuring the discriminating power of fingerprints</td>
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<td>1500 – 1700</td>
<td>Group Work #2 – Scenario: A judge does not understand why fingerprint analysts do not report statistics like DNA and may exclude the fingerprint testimony. Develop a line of questions &amp; answers regarding fingerprint statistical studies to support admitting fingerprint evidence without a specific fingerprint statistical model.</td>
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### Day 3

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<th>Time</th>
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<tbody>
<tr>
<td>0800 – 0900</td>
<td>Feedback Session for Group Work #2</td>
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<tr>
<td>0900 – 1000</td>
<td><strong>Testimony Practical #2</strong></td>
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<tr>
<td>1000 – 1100</td>
<td>Theories of Experts and Expert Performance</td>
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<td>1100 – 1200</td>
<td>Lunch</td>
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<tr>
<td>1200 – 1300</td>
<td>Basic Concepts in Vision Science</td>
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<td>1300 – 1400</td>
<td>Visual Expertise in Fingerprints</td>
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<tr>
<td>1400 – 1500</td>
<td>Journey from Novice to Expert - the skills a new analyst obtains during a latent print (or tenprint) training program.</td>
</tr>
<tr>
<td>1500 – 1700</td>
<td><strong>Group Work #3</strong> – Scenario: A judge has indicated she may limit the expert’s testimony to simply demonstrating the detail found in agreement and will permit the jury to determine if the defendant is identified to a latent print. Develop a line of questions &amp; answers to convince a judge not to limit the expert’s testimony.</td>
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### Day 4

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<tbody>
<tr>
<td>0800 – 0900</td>
<td>Feedback Session for Group Work #3</td>
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<tr>
<td>0900 – 1000</td>
<td><strong>Testimony Practical #3</strong></td>
</tr>
<tr>
<td>1000 – 1100</td>
<td>Introduction to Error Rates</td>
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<tr>
<td>1100 – 1200</td>
<td>PCAST and Confidence Intervals</td>
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<tr>
<td>1200 – 1300</td>
<td>Lunch</td>
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<tr>
<td>1300 – 1400</td>
<td>Introduction to Human Factors</td>
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<td>1400 – 1500</td>
<td>Quality Management Systems</td>
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<tr>
<td>1500 – 1700</td>
<td><strong>Group Work #4</strong> – Scenario: During opening statements, a defense attorney has told the jury that studies have shown that LPEs make false identifications in as many as 1 in 306 cases or even 1 in 18 cases. Develop a line of questions and answers to handle these statements during direct testimony. Include methods to reduce errors in an operational setting.</td>
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### Day 5

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<tr>
<td>0800 – 0900</td>
<td>Feedback Session for Group Work #4</td>
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<tr>
<td>0900 – 1100</td>
<td><strong>Testimony Practical #4</strong></td>
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<tr>
<td>1100 – 1200</td>
<td>Lunch</td>
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<tr>
<td>1200 – 1300</td>
<td>Review of Glenn Langenburg's PhD thesis</td>
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<tr>
<td>1300 – 1400</td>
<td>Review of Austin Hicklin’s PhD thesis</td>
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<tr>
<td>1400 – 1600</td>
<td>Course Review</td>
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<tr>
<td>1600 – 1700</td>
<td>Closing remarks and certificates</td>
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Bibliography

Introduction

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