

BOOK REVIEW

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Review of *Advances in Fingerprint Technology*

REFERENCE: Lee, H. C. and Gaensslen, R. E., *Advances in Fingerprint Development*, Elsevier Science Publishing Co. Inc., New York, NY, 1991, \$44.95.

This book presents a history and status of latent fingerprint development, enhancement, identification, storage and retrieval, and testimony. As evidenced in the book, the intended readers are not only fingerprint examiners (users) and legal experts (attorneys), but also chemists, physicists, biologists, information scientists, and image scientists and engineers. This illustrates the multidisciplinary nature of this expanding field. Some of the contributing authors to the ten chapters are the founders of the advanced technology currently being used.

John Berry's chapter on history is unique in that he begins with his personal experiences with specimens of ancient history. He then gives concise sketches of the early pioneers of fingerprint classification systems and how fingerprint usage developed in several countries.

Robert Olson's chapter on identification treats several methods for fingerprint comparison and provides an identification protocol (flow diagram) that incorporates his vast knowledge of the process.

The chapter by Henry Lee and Robert Gaensslen on methods of development is an excellent summary of current techniques used for developing prints on several evidence types. It provides formulation recipes and development protocols. The references are a rich resource for further investigation.

Joseph Almog's scholarly chapter on development with ninhydrin and its analogues presents a chemical history of improving ninhydrin—a field that he established and others are now following. His work has resulted in several compounds which are superior to ninhydrin especially in the fluorescence mode after secondary metal treatment.

E. Roland Menzel, another giant in his field, wrote the chapter on the use of lasers to enhance fingerprints particularly through fluorescence. It is a synthesis of his vast work in this area and culminates with his current research in time-resolved imaging to reduce background fluorescence. Though alternate light sources are not mentioned, they are in the Lee and Gaensslen chapter.

Edward German's informative chapter treats the relative new field of fingerprint enhancement through image processing. Relatively little has been done in this area until recently. Optical enhancement using the UV region is also discussed.

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With regard to the automated fingerprint identification systems (AFIS), the Preface states, "AFIS makes possible for the first time the ability to search large files for single fingerprints, such as latents typically recovered from crime scenes. As of July 1990, there were 62 AFIS installations in the United States - 29 De La Rue Printrak, 26 NEC, and 7 North American MORPHO." This number has since grown. Raymond Moore's chapter presents an AFIS history and then describes current systems and how they can be compared. In their chapter, Timothy Ruggles et al. discuss the MORPHO system while Frank Woods discusses the Printrak system in his chapter. Although the latter two were written by vendors, the Preface states that, "These chapters were included as information for readers, and not as any sort of commercial endorsement by us (authors) or by Elsevier (publisher)."

The final chapter on the expert witness is authored by Robert Hazen and Clarence Phillips, two leading experts with vast experience in training. They present relevant and succinct information needed in preparing for court presentation. A useful glossary of courtroom terms appears at the end.

Overall, the authors try to keep the examiner in mind; although, in some cases this examiner is expected to be rather multifaceted. In those extreme cases where they discuss topics of special interest to particular scientific disciplines, the authors usually summarize the relevant results for the examiner.

This is indeed a highly recommended book for users and researchers in the expanding fingerprint field—and at a reasonable price.