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New to This Edition

- **New!** Numerous case files have been added to select chapters to illustrate how forensic technology has been applied to solving crimes of notoriety.
- Chapter 3, “Recording the Crime Scene,” has been updated to include a discussion of body worn cameras and their role in crime scene documentation.
- Chapter 8, “Forensic Biometrics: Fingerprints and Facial Recognition,” is a new chapter focusing on the application of fingerprint, iris, and facial biometrics used to create biometric databases.
- Chapter 5, “Physical Evidence,” has been updated to introduce the reader to the new FBI Next Generation Identification system (NGI), created as a repository for biometric information.
- Chapter 15, “DNA: The Indispensable Tool,” has been revised to address updates to the Combined DNA Indexing System to reflect newly implemented technologies and database expansion.
- Chapter 16, “Forensic Aspects of Fire and Explosion Investigation,” has been expanded to cover the discussion of the deviation of fire from normal behavior and how it impacts on burn pattern interpretations at fire scenes.
- Information throughout the text has been updated and many new figures have been added to illustrate concepts discussed in the chapters.

**Purpose of This Book**

When one sets out to write a textbook on the current state of forensic science, the first things that come to mind are all the sophisticated high-tech devices at the disposal of the forensic analyst. A textbook devoted to this topic can quickly overwhelm the student who has little or no prior coursework in the basic sciences and who is averse to correcting this deficiency. Although a study of forensic science must include coverage of some basic scientific principles, the coverage must be presented in a fashion that will not “turn off” the student. Like the third edition, *Forensic Science: From the Crime Scene to the Crime Lab*, Fourth Edition, is designed to accomplish this objective by presenting the science of forensics in a straightforward and student-friendly format.

Topics are arranged to integrate scientific methodology with actual forensic applications. Discussions of the scientific topics focus on state-of-the-art technology without delving into extraneous theories that may bore or overwhelm the nonscience student. Only the most relevant scientific and technological concepts are presented. A major portion of the text centers on the role of the crime-scene investigator in
preserving, recording, and collecting physical evidence at the crime scene. Chapter 3, describing the application of photography to the crime scene, has been updated to introduce the use of the body worn camera at crime scenes. One key concern during the collection of a DNA-containing specimen is contamination. Appropriate insights have been added to the text for minimizing this type of occurrence during the collection and packaging of biological evidence. The fourth edition also includes a new chapter (Chapter 8), “Forensic Biometrics and Facial Recognition.”

Descriptions and pertinent forensic facts about cases of notoriety are provided for the reader. The intent is to demonstrate to the reader actual applications of forensic science to real-life case investigations.

The reader is offered the option of delving into the more difficult technical aspects of the subject by reading the Closer Analysis features. This option can be bypassed without detracting from a basic comprehension of the subject of forensic science.

Within and at the end of each chapter, the reader will encounter Quick Reviews and a Chapter Review that recap all of the major points of the chapter. The end-of-chapter Summary is followed by Review Questions, as well as Application and Critical Thinking exercises designed to enhance the reader’s learning experience.

Acknowledgments

I would like to thank Tiffany Roy for her assistance in the preparation of the newest edition of this book. Tiffany is a Forensic DNA expert living and working in South Florida, who has worked in both public and private DNA laboratories in the United States. As an undergraduate professor and a licensed attorney, her unique perspective influenced a number of chapter updates as well as case file additions.

I am most appreciative of the contribution that retired Lieutenant Andrew (Drew) Donofrio of New Jersey’s Bergen County Prosecutor’s Office and now a leading private computer forensic examiner made to this new edition. I was fortunate to find in Drew a contributor who not only possesses extraordinary skill, knowledge, and hands-on experience with computer forensics, but was able to combine those attributes with sophisticated communication skills. Likewise, I was fortunate to have Dr. Peter Stephenson contribute to this book on the subject of mobile forensics. He brings skills as a cybercriminologist, author, and educator in digital forensics.

Likewise, I was very fortunate to engage the services of Michelle Tetrault as my research assistant during the preparation of the first and second editions of Forensic Science: From the Crime Scene to the Crime Lab. Michelle is an extraordinarily gifted student out of Cedar Crest College in Allentown, Pennsylvania, and George Washington University. She was instrumental in helping me write and organize a number of the chapters in this text. Her skills and tenacity in carrying out her tasks are acknowledged and greatly appreciated.
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Many people provided assistance and advice in the preparation of this book. Many faculty members, colleagues, and friends have read and commented on various portions of the text. I would like to acknowledge the contributions of Anita Wonder, Robert J. Phillips, Norman H. Reeves, Jeffrey C. Kercheval, Robert Thompson, Roger Ely, Jose R. Almirall, Michael Malone, Ronald Welsh, Joshua Wilborne, David Pauly, Jan Johnson, Natalie Borgan, Dr. Barbara Needell, Robin D. Williams, Peter Diaczuk, Ken Radwill, Randi Dubnick, and Jacqueline E. Joseph. I’m appreciative of the contributions, reviews, and comments that Dr. Claus Speth, Dr. Mark Taff, Dr. Elizabeth Laposata, Thomas P. Mauriello, and Michelle D. Miranda provided during the preparation of Chapter 6, “Death Investigation.”

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RICHARD SAFERSTEIN, Ph.D., retired in 1991 after serving for twenty-one years as the chief forensic scientist of the New Jersey State Police Laboratory, one of the largest crime laboratories in the United States. He currently acts as a consultant for attorneys and the media in the area of forensic science. During the O. J. Simpson criminal trial, Dr. Saferstein provided extensive commentary on forensic aspects of the case for the Rivera Live show, the E! television network, ABC radio, and various radio talk shows. Dr. Saferstein holds degrees from the City College of New York and earned his doctorate degree in chemistry in 1970 from the City University of New York. From 1972 to 1991, he taught an introductory forensic science course in the criminal justice programs at the College of New Jersey and Ocean County College. These teaching experiences played an influential role in Dr. Saferstein’s authorship in 1977 of the widely used introductory textbook Criminalistics: An Introduction to Forensic Science, currently in its twelfth edition. Dr. Saferstein’s basic philosophy in writing Forensic Science: From the Crime Scene to the Crime Lab, Fourth Edition, is to make forensic science understandable and meaningful to the nonscience reader while giving the reader an appreciation for the scientific principles that underlie the subject.


In 2006, Dr. Saferstein received the American Academy of Forensic Sciences Paul L. Kirk award for distinguished service and contributions to the field of criminalistics.

TIFFANY ROY, JD, Ph.D., made substantial contributions assisting Dr. Saferstein in the revision of this edition of the textbook, the supplements that accompany the textbook, and the new Revel interactive etext. Roy is a Forensic DNA expert with over eleven years of forensic biology experience in both public and private laboratories in the United States. She instructs undergraduates at Palm Beach Atlantic University in West Palm Beach, Florida; University of Maryland University College; and Southern New Hampshire University. She currently acts as a consultant for attorneys and the media in the area of forensic biology through her firm, ForensicAid, LLC. Roy holds degrees from Syracuse University, Massachusetts School of Law, and University of Florida in the areas of Biology, Law, and Forensic Science. Her teaching, legal writing, and testimonial experience help her to take complex scientific concepts and make them easily understandable for the nonscientist.