Forensic Voice Identification

Eleven years after the publication of his seminal book, *The Acoustics of Crime*, Dr. Harry Hollien returns to share the benefit of over 40 years of experience in the field of forensic acoustics.

**Forensic Voice Identification** - Harry Francis Hollien - 2002

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Forensic Voice Identification fills the need for a new, comprehensive reference for professionals who work with recorded evidence, covering key areas such as authentication of speech recordings, voice stress analysis, and speaker identification. This practical, hands-on guide covers the basic sciences behind voice identification, and outlines many applications unique to this forensic specialty. For instance, one chapter covers everything the reader needs to know about coordinating "ear witness" lineups and another discusses the ins and outs of using professional consultants in an investigation. The field has advanced significantly in recent years, and Dr. Hollien has been at the forefront of research and the development of new techniques and technologies. In this practical new book readers will learn how to use Hollien's own SAUSI (Semi-automatic Speaker Identification) system, learn about the latest high-tech machinery available for forensic voice identification, and gain a solid understanding of the classic methods and technologies on which they are based. * Practical new, comprehensive reference for professionals who work with recorded evidence, covering key areas such as authentication of speech recordings, voice stress analysis, and speaker identification. This practical, hands-on guide covers the basic sciences behind voice identification, and outlines many applications unique to this forensic specialty. For instance, one chapter covers everything the reader needs to know about coordinating "ear witness" lineups and another discusses the ins and outs of using professional consultants in an investigation. The field has advanced significantly in recent years, and Dr. Hollien has been at the forefront of research and the development of new techniques and technologies. In this practical new book readers will learn how to use Hollien's own SAUSI (Semi-automatic Speaker Identification) system, learn about the latest high-tech machinery available for forensic voice identification, and gain a solid understanding of the classic methods and

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Forensic Speaker Identification - Phil Rose - 2002-07-01
A voice is much more than just a string of words. Voices, unlike fingerprints, are inherently complex. They signal a great deal of information in addition to the intended message: the speakers' sex, for example, or their emotional state, or age. Although evidence from DNA analysis grabs the headlines, DNA can't talk. It can't be recorded planning,

Forensic Speaker Recognition - Amy Neustein - 2011-10-05
Forensic Speaker Recognition: Law Enforcement
such diverse countries as Switzerland, Sweden, research findings of 35 speaker recognition experts from around the world. The volume provides a multidimensional view of the complex science involved in determining whether a suspect’s voice truly matches forensic speech samples, collected by law enforcement and counter-terrorism agencies, that are associated with the commission of a terrorist act or other crimes. While addressing such topics as the challenges of forensic case work, handling speech signal degradation, analyzing features of speaker recognition to optimize voice verification system performance, and designing voice applications that meet the practical needs of law enforcement and counter-terrorism agencies, this material all sounds a common theme: how the rigors of forensic utility are demanding new levels of excellence in all aspects of speaker recognition. The contributors are among the most eminent scientists in speech engineering and signal processing; and their work represents Italy, France, Japan, India and the United States. Forensic Speaker Recognition is a useful book for forensic speech scientists, speech signal processing experts, speech system developers, criminal prosecutors and counter-terrorism intelligence officers and agents.

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**Forensic Speaker Identification Ability of Blind and Sighted Listeners** - Almut Braun - 2016-08-08
Almut Braun carried out forensic phonetic speaker identification experiments (voice lineups) with 306 lay listeners. Blind listeners
blind earwitnesses. Furthermore, it is discussed the speech recordings were presented in studio quality. For recordings in mobile phone quality or of whispering voices, blind and sighted listeners achieved similar results. The data can be used as reference material for real cases with blind earwitnesses. Furthermore, it is discussed whether blind individuals are particularly suitable to work as forensic audio analysts for law enforcement agencies.

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**Forensic Voice Identification** - Lonnie L. Smrkovski - 1981

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**The Oxford Handbook of Voice Perception** - Sascha ühholz - 2019-01-29

Speech perception has been the focus of innumerable studies over the past decades. While our abilities to recognize individuals by their voice state plays a central role in our everyday social interactions, limited scientific attention has been devoted to the perceptual and cerebral mechanisms underlying nonverbal information processing in voices. The Oxford Handbook of Voice Perception takes a comprehensive look at this emerging field and presents a selection of
has been devoted to the perceptual and cerebral chapters summarise the most exciting research from across several disciplines covering acoustical, clinical, evolutionary, cognitive, and computational perspectives. In particular, this handbook offers an invaluable window into the development and evolution of the 'vocal brain', and considers in detail the voice processing abilities of non-human animals or human infants. By providing a full and unique perspective on the recent developments in this burgeoning area of study, this text is an important and interdisciplinary resource for students, researchers, and scientific journalists interested in voice perception.

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**Forensic Voice Identification** - Yme Asgeir Kvistedal - 2000
Each entry includes a definition, key words, list of synonyms, list of related entries, illustration(s), applications, and a bibliography. Most entries include useful literature references providing the reader with a portal to more detailed information.

**Encyclopedia of Biometrics** - Stan Z. Li - 2009-08-27
With an A–Z format, this encyclopedia provides easy access to relevant information on all aspects of biometrics. It features approximately 250 overview entries and 800 definitional entries. Each entry includes a definition, key words, list of synonyms, list of related entries, illustration(s), applications, and a bibliography. Most entries include useful literature references providing the reader with a portal to more detailed information.

**Forensic Aspects of Speech Patterns** - Dennis C. Tanner - 2004

There are many reasons for writing a book; this one was conceived and developed mainly for two. First, a new area has emerged from within the forensic sciences—that of forensic phonetics. As with all new specialties, it is necessary to define it, identify its boundaries, justify its importance and compile a list of the elements it encompasses. This book attempts to outline these
As with all new specialties, it is necessary to define it, identify its boundaries, justify its importance and compile a list of the elements it encompasses. This book attempts to outline these relationships. Second, over the past decade I have become fascinated with forensics in general and the rapidly expanded subarea of forensic phonetics in particular. Admittedly, the latter field is one that is not as yet sufficiently appreciated—and much more needs to be known about its nature and extent. Yet, I have found it to be a most enjoyable area of study and my attempts to describe its domains were quite informative. It was especially interesting to struggle with the interfaces between forensic phonetics and related fields, and discover how they overlap. Only a few comments will be made about the book's contents here in the preface. For one thing, they are described in some detail in the first chapter.

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**Anti-terrorism, Forensic Science, Psychology In Police Investigations** - John S Major -
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**Anti-terrorism, Forensic Science, Psychology In Police Investigations** - John S Major - 2019-03-06

**Speaker Classification I** - Christian Müller - 2007-08-28
This volume and its companion volume LNAI 4441 constitute a state-of-the-art survey in the field of speaker classification. Together they address such intriguing issues as how speaker characteristics are manifested in voice and speaking behavior. The nineteen contributions in this volume are organized into topical sections covering fundamentals, characteristics, applications, methods, and evaluation.

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**Review of** - TL. Bohan - 2004
Dr. Hollien states that his most important reason for writing this book2 was to reduce the gap separating the two components of voice-identification professionals: engineers and phoneticians. As one of the latter group, he attributes the gap as arising, on the one hand, from the engineers' belief that the phoneticians are insufficiently quantitavie and, on the other, the phoneticians' belief that the engineers are ignorant of the "soft" information that assists in voice identification.3 Since, by profession and temperament, I value quantitavie evaluations of forensic techniques and am impatient with hand-waving arguments, I approached this review biased toward the engineering camp, which
Stated differently, I felt that I could gauge how author succeeds in his gap-narrowing effort. Stated differently, I felt that I could gauge how half of his target audience would receive the book.

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**Voice Imitation** - Elisabeth Zetterholm - 2003

**Computational Intelligence in Digital Forensics: Forensic Investigation and Applications** - Azah Kamilah Muda - 2014-04-01

Computational Intelligence techniques have been widely explored in various domains including forensics. Analysis in forensic encompasses the study of pattern analysis that answer the question of interest in security, medical, legal, genetic studies and etc. However, forensic analysis is usually performed through experiments in lab which is expensive both in cost and time. Therefore, this book seeks to explore the progress and advancement of computational intelligence technique in different focus areas of forensic studies. This aims to build stronger connection between computer scientists.
Computational Intelligence in Digital Forensics: Forensic Investigation and Applications, is the first volume in the Intelligent Systems Reference Library series. The book presents original research results and innovative applications of computational intelligence in digital forensics. This edited volume contains seventeen chapters and presents the latest state-of-the-art advancement of Computational Intelligence in Digital Forensics; in both theoretical and application papers related to novel discovery in intelligent forensics. The chapters are further organized into three sections: (1) Introduction, (2) Forensic Discovery and Investigation, which discusses the computational intelligence technologies employed in Digital Forensic, and (3) Intelligent Forensic Science Applications, which encompasses the applications of computational intelligence in Digital Forensic, such as human anthropology, human biometrics, human by products, drugs, and electronic devices.

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**Progress in Nonlinear Speech Processing** - Yannis Stylianou - 2007-03-30
This book constitutes of the major results of the EU COST (European Cooperation in the field of Scientific and Technical Research) Action 277: NSP, Nonlinear Speech Processing, running from April 2001 to June 2005. Coverage includes such areas as speech analysis for speech synthesis, speech recognition, speech-non speech discrimination and voice quality assessment, speech enhancement, and emotional state detection.

**Strengthening Forensic Science in the**
Scores of talented and dedicated people serve the forensic science community, performing vitally important work. However, they are often constrained by lack of adequate resources, sound policies, and national support. It is clear that change and advancements, both systematic and scientific, are needed in a number of forensic science disciplines to ensure the reliability of work, establish enforceable standards, and promote best practices with consistent application. Strengthening Forensic Science in the United States: A Path Forward provides a detailed plan for addressing these needs and suggests the creation of a new government entity, the National Institute of Forensic Science, to establish and enforce standards within the forensic science community. The benefits of improving and regulating the forensic science disciplines are clear: assisting law enforcement officials, enhancing homeland security, and reducing the risk of wrongful conviction and exoneration. Strengthening Forensic Science in the United States gives a full account of what is needed to advance the forensic science disciplines, including upgrading of systems and organizational structures, better training, widespread adoption of uniform and enforceable best practices, and mandatory certification and accreditation programs. While this book provides an essential call-to-action for congress and policy makers, it also serves as a vital tool for law enforcement agencies, criminal prosecutors and attorneys, and forensic science educators.
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This book presents an overview of speaker recognition technologies with an emphasis on dealing with robustness issues. Firstly, the book gives an overview of speaker recognition, such as the basic system framework, categories under different criteria, performance evaluation and its development history. Secondly, with regard to robustness issues, the book presents three categories, including environment-related issues, speaker-related issues and application-oriented issues. For each category, the book describes the current hot topics, existing technologies, and potential research focuses in the future. The book is a useful reference book and self-learning guide for early researchers working in the field.
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Medical-legal and Forensic Aspects of Communication Disorders, Voice Prints, and Speaker Profiling - Dennis C. Tanner - 2007
Medical-Legal and Forensic Aspects of Communication Disorders, Voice Prints, and Speaker Profiling is your comprehensive guide to this complicated area. This four part book is perhaps one of the most complete on this topic. Part I reviews the discipline of communication sciences and disorders and discusses the research methodology used to expand its knowledge base. Part II addresses issues related to medical malpractice and other medical-legal areas for all of the major communication and swallowing disorders. This section includes legal
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**Fundamentals of Voice Identification for Forensic Applications** - Oscar Tosi - 1977

**Intelligent Multimedia Analysis for Security Applications** - Husrev T. Sencar - 2010-04-22

This is one of the very few books focused on analysis of multimedia data and newly emerging multimedia applications with an emphasis on security. The main objective of this project was to assemble as much research coverage as possible related to the field by defining the latest innovative technologies and providing the most comprehensive list of research references. The book includes sixteen chapters highlighting current concepts, issues and emerging technologies. Distinguished scholars from many prominent research institutions around the world contribute to the book. The book covers various aspects, including not only some fundamental knowledge and the latest key techniques, but also typical applications and open issues. Topics covered include dangerous or abnormal event detection, interaction recognition, person identification based on multiple traits, audiovisual biometric person authentication and
opportunities related to this research field. Technologies, sensitive information filtering for teleradiology, detection of nakedness in images, audio forensics, steganalysis, media content tracking authentication and illegal distributor identification through watermarking and content-based copy detection. We believe that the comprehensive coverage of diverse disciplines in the field of intelligent multimedia analysis for security applications will contribute to a better understanding of all topics, research, and discoveries in this emerging and evolving field and that the included contributions will be instrumental in the expansion of the corresponding body of knowledge, making this book a reference source of information. It is our sincere hope that this publication and its great amount of information and research will assist our research colleagues, faculty members and students, and organization decision makers in enhancing their understanding for the concepts, issues, problems, trends, challenges and

Perhaps this book will even inspire its readers to contribute to the current discoveries in this immense field.

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detection, interaction recognition, person
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audiovisual biometric person authentication and
liveness verification, emerging biometric
technologies, sensitive information filtering for
teleradiology, detection of nakedness in images,
audio forensics, steganalysis, media content
tracking authentication and illegal distributor
identification through watermarking and content-
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comprehensive coverage of diverse disciplines in
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Corresponding body of knowledge, making this
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Forensic Gait Analysis - Ivan Birch -
2020-07-07
Gait analysis is the systematic study of human
walking, using the eye and brain of experienced
observers, augmented by instrumentation for
measuring body movements, body mechanics,
and the activity of the muscles. Since Aristotle’s
work on gait analysis more than 2000 years ago,
it has become an established clinical science
used extensively in the healthcare and
rehabilitation fields for diagnosis and treatment.
Forensic Gait Analysis details the more recent,
and rapidly developing, use of gait analysis in the
forensic sciences. The book considers the use of
void, serving as one of the first to describe the recordings, to assist in the process of identification or exclusion. With the increase in use of CCTV and surveillance systems over the last 20 to 30 years, there has been a steady and rapid increase in the use of gait as evidence. Currently, gait analysis is widely used in the UK in criminal investigations, with increasing awareness of its potential use in the US, Europe, and globally. The book details the history of the science, current practices, and of the emergent application to establish best-practice standards that conform to those of other forensic science disciplines. Engagement with the Forensic Science Regulator, and the Chartered Society of Forensic Sciences in the UK, and the International Association for Identification has helped to ensure and enhance the quality assurance of forensic gait analysis. However, there remains a fundamental lack of standardized training and methodology for use in evidentiary and investigative casework. This book fills that current state of practice, capabilities and limitations, and to outline methods, standards of practice and expectations of the gait analyst as a forensic practitioner. Forensic Gait Analysis reflects current research and forensic practice and will serve as a state-of-the-art guide to the use of gait analysis in the forensic context—for both education and training purposes. It will be a welcome addition to the libraries of professionals in the areas of podiatry, gait analysis, forensic video analysis, law enforcement, and legal practice.

**Forensic Gait Analysis** - Ivan Birch - 2020-07-07
Gait analysis is the systematic study of human walking, using the eye and brain of experienced observers, augmented by instrumentation for measuring body movements, body mechanics, and the activity of the muscles. Since Aristotle’s work on gait analysis more than 2000 years ago, it has become an established clinical science.
helped to ensure and enhance the quality rehabilitation fields for diagnosis and treatment. Forensic Gait Analysis details the more recent, and rapidly developing, use of gait analysis in the forensic sciences. The book considers the use of observational gait analysis, based on video recordings, to assist in the process of identification or exclusion. With the increase in use of CCTV and surveillance systems over the last 20 to 30 years, there has been a steady and rapid increase in the use of gait as evidence. Currently, gait analysis is widely used in the UK in criminal investigations, with increasing awareness of its potential use in the US, Europe, and globally. The book details the history of the science, current practices, and of the emergent application to establish best-practice standards that conform to those of other forensic science disciplines. Engagement with the Forensic Science Regulator, and the Chartered Society of Forensic Sciences in the UK, and the International Association for Identification has assurance of forensic gait analysis. However, there remains a fundamental lack of standardized training and methodology for use in evidentiary and investigative casework. This book fills that void, serving as one of the first to describe the current state of practice, capabilities and limitations, and to outline methods, standards of practice and expectations of the gait analyst as a forensic practitioner. Forensic Gait Analysis reflects current research and forensic practice and will serve as a state-of-the-art guide to the use of gait analysis in the forensic context—for both education and training purposes. It will be a welcome addition to the libraries of professionals in the areas of podiatry, gait analysis, forensic video analysis, law enforcement, and legal practice.

**Handbook of Research on Knowledge and Organization Systems in Library and Information Science** - Holland, Barbara Jane - 2021-06-25
Due to changes in the learning and research environment, changes in the behavior of library users, and unique global disruptions such as the COVID-19 pandemic, libraries have had to adapt and evolve to remain up-to-date and responsive to their users. Thus, libraries are adding new, digital resources and services while maintaining most of the old, traditional resources and services. New areas of research and inquiry in the field of library and information science explore the applications of machine learning, artificial intelligence, and other technologies to better serve and expand the library community.

The Handbook of Research on Knowledge and Organization Systems in Library and Information Science examines new technologies and systems and their application and adoption within libraries. This handbook provides a global perspective on current and future trends concerning library and information science. Covering topics such as machine learning, library management, ICTs, blockchain technology, social media, and augmented reality, this book is essential for librarians, library directors, library technicians, media specialists, data specialists, catalogers, information resource officers, administrators, IT consultants and specialists, academicians, and students.

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and family law litigation. It has been cited by superior courts in every jurisdiction in Australia and New Zealand, as well as in a number of other countries. As well as setting out and interpreting the complex common law and statutory criteria for expert evidence admissibility, the book also provides guidance in relation to how most effectively expert witnesses can provide their opinions and how they can be made accountable for their views. It scrutinises disciplinary, costs and civil law repercussions for substandard expert evidence and analyses the forensic application of codes of ethics for experts that have been promulgated in all jurisdictions.

**Expert Evidence** - Ian Freckelton - 2018-12-14
Expert Evidence: Law, Practice, Procedure and Advocacy is the acclaimed work of first resort for analysing the complex law and practice surrounding expert witnesses and expert evidence in personal injury, commercial, criminal and family law litigation. It has been cited by superior courts in every jurisdiction in Australia.
Speaker Tracking and more. The technical countries. As well as setting out and interpreting the complex common law and statutory criteria for expert evidence admissibility, the book also provides guidance in relation to how most effectively expert witnesses can provide their opinions and how they can be made accountable for their views. It scrutinises disciplinary, costs and civil law repercussions for substandard expert evidence and analyses the forensic application of codes of ethics for experts that have been promulgated in all jurisdictions.

**Fundamentals of Speaker Recognition** - Homayoon Beigi - 2011-12-09
An emerging technology, Speaker Recognition is becoming well-known for providing voice authentication over the telephone for helpdesks, call centres and other enterprise businesses for business process automation. "Fundamentals of Speaker Recognition" introduces Speaker Identification, Speaker Verification, Speaker (Audio Event) Classification, Speaker Detection, problems are rigorously defined, and a complete picture is made of the relevance of the discussed algorithms and their usage in building a comprehensive Speaker Recognition System. Designed as a textbook with examples and exercises at the end of each chapter, "Fundamentals of Speaker Recognition" is suitable for advanced-level students in computer science and engineering, concentrating on biometrics, speech recognition, pattern recognition, signal processing and, specifically, speaker recognition. It is also a valuable reference for developers of commercial technology and for speech scientists. Please click on the link under "Additional Information" to view supplemental information including the Table of Contents and Index.

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view supplemental information including the call centres and other enterprise businesses for business process automation. "Fundamentals of Speaker Recognition" introduces Speaker Identification, Speaker Verification, Speaker (Audio Event) Classification, Speaker Detection, Speaker Tracking and more. The technical problems are rigorously defined, and a complete picture is made of the relevance of the discussed algorithms and their usage in building a comprehensive Speaker Recognition System. Designed as a textbook with examples and exercises at the end of each chapter, "Fundamentals of Speaker Recognition" is suitable for advanced-level students in computer science and engineering, concentrating on biometrics, speech recognition, pattern recognition, signal processing and, specifically, speaker recognition. It is also a valuable reference for developers of commercial technology and for speech scientists. Please click on the link under "Additional Information" to view supplemental information including the Table of Contents and Index.

**Interpreting Evidence** - Bernard Robertson - 2016-09-19
This book explains the correct logical approach to analysis of forensic scientific evidence. The focus is on general methods of analysis applicable to all forms of evidence. It starts by explaining the general principles and then applies them to issues in DNA and other important forms of scientific evidence as examples. Like the first edition, the book analyses real legal cases and judgments rather than hypothetical examples and shows how the problems perceived in those cases would have been solved by a correct logical approach. The book is written to be understood both by forensic scientists preparing their evidence and by lawyers and judges who have to deal with it. The analysis is tied back both to basic scientific principles and to the principles of the law of evidence. This book will also be essential reading...
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Dialect Accent Features for Establishing Speaker Identity - Manisha Kulshreshtha - 2012-03-24
Dialect Accent Features for Establishing Speaker Identity: A Case Study discusses the subject of forensic voice identification and speaker profiling. Specifically focusing on speaker profiling and using dialects of the Hindi language, widely used in India, the authors have contributed to the body of research on speaker identification by using accent feature as the discriminating factor. This case study contributes to the understanding of the speaker identification process in a situation where unknown speech samples are in different language/dialect than the recording of a suspect. The authors' data...
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**The Evaluation of Forensic DNA Evidence** - National Research Council - 1996-12-12

In 1992 the National Research Council issued DNA Technology in Forensic Science, a book that documented the state of the art in this emerging field. Recently, this volume was brought to worldwide attention in the murder trial of celebrity O. J. Simpson. The Evaluation of Forensic DNA Evidence reports on developments in population genetics and statistics since the original volume was published. The committee comments on statements in the original book that proved controversial or that have been misapplied in the courts. This volume offers
its recommendations would mean in the performing calculations, and other aspects of using DNA as a forensic tool--modifying some recommendations presented in the 1992 volume. The update addresses two major areas: Determination of DNA profiles. The committee considers how laboratory errors (particularly false matches) can arise, how errors might be reduced, and how to take into account the fact that the error rate can never be reduced to zero. Interpretation of a finding that the DNA profile of a suspect or victim matches the evidence DNA. The committee addresses controversies in population genetics, exploring the problems that arise from the mixture of groups and subgroups in the American population and how this substructure can be accounted for in calculating frequencies. This volume examines statistical issues in interpreting frequencies as probabilities, including adjustments when a suspect is found through a database search. The committee includes a detailed discussion of what courtroom, with numerous case citations. By resolving several remaining issues in the evaluation of this increasingly important area of forensic evidence, this technical update will be important to forensic scientists and population geneticists--and helpful to attorneys, judges, and others who need to understand DNA and the law. Anyone working in laboratories and in the courts or anyone studying this issue should own this book.

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**Voice Quality** - John Laver - 1979-01-01
The characteristic voice quality of a speaker conveys to listeners a wealth of information about his physical, psychological and social attributes. For this reason, voice quality is of interest to a wide range of disciplines, including linguistics, phonetics and speech science, speech pathology, sociology, psychology, medicine, and
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Exceptions to this are purely medical literature and literature on speech pathology; also, although a number of different languages are represented, works in English received the principal coverage.

Analysing Witness Testimony - Anthony Heaton-Armstrong - 1999
The consideration of witness testimony had traditionally been a task left to fact-finders with scant guidance from legal professionals. As a result, various practices have developed during the investigative and trial process which can obscure or even eradicate critical material. Miscarriages of justice will continue to occur, so long as those working within the justice system continue to accept witnesses and their testimony at face value. This book aims to make practitioners, as well as the fact-finders and those who guide them, aware of a wide range of perspectives on witness testimony. Each contributor identifies bad practice and puts
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**ICCCE 2019** - Amit Kumar - 2019-08-02
This book is a collection research papers and articles from the 2nd International Conference on Communications and Cyber-Physical Engineering (ICCCE – 2019), held in Pune, India in Feb 2019. Discussing the latest developments in voice and data communication engineering, cyber-physical systems, network science, communication software, image- and multimedia processing research and applications, as well as communication technologies and other related technologies, it includes contributions from both academia and industry.
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**Handbook of Forensic Statistics** - David L. Banks - 2020-11-05

Handbook of Forensic Statistics is a collection of chapters by leading authorities in forensic statistics. Written for statisticians, scientists, and legal professionals having a broad range of statistical expertise, it summarizes and compares basic methods of statistical inference (frequentist, likelihoodist, and Bayesian) for trace and other evidence that links individuals to crimes, the modern history and key controversies in the field, and the psychological and legal aspects of such scientific evidence. Specific topics include uncertainty in measurements and conclusions; statistically valid statements of weight of evidence or source conclusions; admissibility and presentation of statistical (including problems and pitfalls) for collecting, analyzing, and interpreting data in such areas as forensic biology, chemistry, and pattern and impression evidence. The particular types of evidence that are discussed include DNA, latent fingerprints, firearms and toolmarks, glass, handwriting, shoeprints, and voice exemplars.

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**Investigative Uses of Technology** - 2007

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**Machine Learning for Speaker Recognition** - Man-Wai Mak - 2020-06-30
This book will help readers understand fundamental and advanced statistical models and deep learning models for robust speaker recognition and domain adaptation. This useful toolkit enables readers to apply machine learning techniques to address practical issues, such as robustness under adverse acoustic environments and domain mismatch, when deploying speaker recognition systems. Presenting state-of-the-art machine learning techniques for speaker recognition and featuring a range of probabilistic models, learning algorithms, case studies, and new trends and directions for speaker recognition based on modern machine learning and deep learning, this is the perfect resource for graduates, researchers, practitioners and engineers in electrical engineering, computer science and applied mathematics.

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The Oxford Handbook of Language and Law - Peter M. Tiersma - 2012-03-08
This book provides a state-of-the-art account of past and current research in the interface between linguistics and law. It outlines the range of legal areas in which linguistics plays an increasing role and describes the tools and approaches used by linguists and lawyers in this vibrant new field. Through a combination of overview chapters, case studies, and theoretical descriptions, the volume addresses areas such as meaning and interpretation, multilingualism and language rights, courtroom discourse, forensic identification, intellectual property and linguistics, and legal translation and interpretation. Encyclopaedic in scope, the handbook includes chapters written by experts from every continent who are familiar with linguistic issues that arise in diverse legal systems, including both civil and common law jurisdictions, mixed systems like that of China, and the emerging law of the European Union.
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**The Art of Cross-examination** - Francis Lewis Wellman - 1904

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