Understanding Wine Technology The Science Of Wine Explained

THE FIRST BOOK TO FOCUS ON THE ROLE OF GLASS AS A MATERIAL OF CRITICAL IMPORTANCE TO THE WINE INDUSTRY For centuries glass has been the material of choice for storing, shipping, and sipping wine. How did that come to pass, and why? To what extent have glassmaking and winemaking co-evolved over the centuries? The first book to focus on the role of glass as a material of critical importance to the wine industry, The Glass of Wine answers these and other fascinating questions. The authors deftly interweave compelling historical, technical, and esthetic narratives in their exploration of glass as the vessel of choice for holding, storing, and consuming wine. They discuss the traditions informing the shapes and sizes of wine bottles and wine glasses, and they demystify the selection of the "right glass" for red versus white varietals, as well as sparkling and dessert wines. In addition, they review the technology of modern glassmaking and consider the various roles glass plays in wineries—especially in the enologist's laboratory. They also consider the increasing use of aluminum and polymer containers and its potential impact on the central role of glass as the essential material for wine appreciation. The first book focusing on the role of glass and its central importance to the wine industry Written by a glass scientist at the University of California, Davis, home of the premier viticulture and enology program in North America Interlards discussions of the multi-billion dollar glass and wine industries with valuable technical insights for scientists, engineers, and wine enthusiasts alike Illustrates the wide spectrum of bottles, carafes, decanters, and drinking glasses with an abundance of exquisite full-color photos Both an authoritative guide and a compelling read, The Glass of Wine tells the story of the centuries-old marriage between an endlessly fascinating material and a celebrated beverage. It is sure to have enormous appeal among ceramic and glass professionals, wine makers, and oenophiles of all backgrounds. The aim of this book is to describe chemical and biochemical aspects of winemaking that are currently being researched. The authors have selected the very best experts for each of the areas. The first part of the book summarizes the most important aspects of winemaking technology and microbiology. The second most extensive part deals with the different groups of compounds, how these are modified during the various steps of the production process, and how they affect the wine quality, sensorial aspects, and physiological activity, etc. The third section describes undesirable alterations of wines, including those affecting quality and food safety. Finally, the treatment of data will be considered, an aspect which has not yet been tackled in any other book on enology. In this chapter, the authors not only explain the tools available for analytical data processing, but also indicate the most appropriate treatment to apply, depending on the information required, illustrating with examples throughout the chapter from enological literature. A textbook and practitioner's guide, written by a leading Professor of Wine Business and a seasoned luxury wine marketing practitioner. It describes the history and best practices of marketing luxury wine, and includes case studies of wineries from around the world, as well as new, primary research into the market size of luxury wine. White Wine Technology addresses the challenges surrounding white wine production. The book explores emerging trends in modern enology, including molecular tools for wine quality and analysis of modern approaches to maceration extraction, alternative microorganisms for alcoholic fermentation, and malolactic fermentation. The book focuses on the technology and biotechnology of white wines, providing a quick reference of novel ways to increase and improve overall wine production and innovation. Its reviews of recent studies and technological advancements to improve grape maturity and production and ways to control PH level make this book essential to wine producers,
Where To Download Understanding Wine Technology The Science Of Wine Explained

researchers, practitioners, technologists and students. Covers trends in both traditional and modern enology technologies, including extraction, processing, stabilization and ageing technologies Examines the potential impacts of climate change on wine quality Provides an overview of biotechnologies to improve wine freshness in warm areas and to manage maturity in cold climates Includes detailed information on hot topics such as the use of GMOs in wine production, spoilage bacteria, the management of oxidation, and the production of dealcoholized wines

When asking the question what is wine? there are various ways to answer. Wine is extolled as a food, a social lubricant, an antimicrobial and antioxidant, and a product of immense economic significance. But there is more to it than that. When did humans first start producing wine and what are its different varieties? Are wines nutritious or have any therapeutic values—do they have any role in health or are they simply intoxicating beverages? How are their qualities determined or marketed and how are these associated with tourism? Concise Encyclopedia of Science and Technology of Wine attempts to answer all these questions and more. This book reveals state-of-the-art technology of winemaking, describing various wine regions of the world and different cultivars used in winemaking. It examines microbiology, biochemistry, and engineering in the context of wine production. The sensory qualities of wine and brandy are explored, and the composition, nutritive and therapeutic values, and toxicity are summarized. Selected references at the end of each chapter provide ample opportunity for additional study. Key Features: Elaborates on the recent trends of control and modeling of wine and the techniques used in the production of different wines and brandies Focuses on the application of biotechnology, especially genetic engineering of yeast, bioreactor technological concepts, enzymology, microbiology, killer yeast, stuck and sluggish fermentation, etc. Illustrates the biochemical basis of wine production including malolactic fermentation Examines marketing, tourism, and the present status of the wine industry Concise Encyclopedia of Science and Technology of Wine contains the most comprehensive, yet still succinct, collection of information on the science and technology of winemaking. With 45 chapters contributed by leading experts in their fields, it is an indispensable treatise offering extensive details of the processes of winemaking. The book is an incomparable resource for oenologists, food scientists, biotechnologists, postharvest technologists, biochemists, fermentation technologists, nutritionists, chemical engineers, microbiologists, toxicologists, organic chemists, and the undergraduate and postgraduate students of these disciplines.

Grape and Wine Biotechnology is a collective volume divided into 21 chapters focused on recent advances in vine pathology and pests, molecular tools to control them, genetic engineering and functional analysis, wine biotechnology including molecular techniques to study Saccharomyces and non-Saccharomyces yeast in enology, new fermentative applications of nonconventional yeasts in wine fermentation, biological aging on lees and wine stabilization, advanced instrumental techniques to detect wine origin and frauds, and many other current applications useful for researchers, lecturers, and wine or wine professionals. The chapters have been written by experts from different universities and research centers of 13 countries being representative of the knowledge, research, and know-how of many wine regions worldwide.

A captivating survey of the science of wine and winemaking for anyone who has ever wondered about the magic of the fermented grape An excellent bottle of wine can be the spark that inspires a brainstorming session. Such was the case for Ian Tattersall and Rob DeSalle, scientists who frequently collaborate on book and museum exhibition projects. When the conversation turned to wine one evening, it almost inevitably led the two—one a palaeoanthropologist, the other a molecular biologist—to begin exploring the many intersections between science and wine. This book presents their fascinating, freewheeling answers to the question “What can science tell us about wine?” And vice versa.
Conversational and accessible to everyone, this colorfully illustrated book embraces almost every imaginable area of the sciences, from microbiology and ecology (for an understanding of what creates this complex beverage) to physiology and neurobiology (for insight into the effects of wine on the mind and body). The authors draw on physics, chemistry, biochemistry, evolution, and climatology, and they expand the discussion to include insights from anthropology, primatology, entomology, Neolithic archaeology, and even classical history. The resulting volume is indispensable for anyone who wishes to appreciate wine to its fullest.

This volume applies an inductive experimental approach to recognize, control and resolve the variables that effect the wine-making process and the quality of the final product - focusing on the grape variety-yeast interaction controversy. It contains over 300 drawings, photographs and photomicrographs that illustrate the diagnostic morphology of wine yeast and bacteria used to track wine spoilage and related problems. This book, written by experts, aims to provide a detailed overview of recent advances in oenology. Book chapters include the latest progress in the chemistry and biochemistry of winemaking, stabilisation, and ageing, covering the impact of phenolic compounds and their transformation products on wine sensory characteristics, emerging non-thermal technologies, fermentation with non-Saccharomyces yeasts, pathways involved in aroma compound synthesis, the effect of wood chips use on wine quality, the chemical changes occurring during Port wine ageing, sensory mechanisms of astringency, physicochemical wine instabilities and defects, and the role of cork stoppers in wine bottle ageing. It is highly recommended to academic researchers, practitioners in wine industries, as well as graduate and PhD students in oenology and food science.

Science and Technology of Fruit Wine Production includes introductory chapters on the production of wine from fruits other than grapes, including their composition, chemistry, role, quality of raw material, medicinal values, quality factors, bioreactor technology, production, optimization, standardization, preservation, and evaluation of different wines, specialty wines, and brandies. Wine and its related products have been consumed since ancient times, not only for stimulatory and healthful properties, but also as an important adjunct to the human diet by increasing satisfaction and contributing to the relaxation necessary for proper digestion and absorption of food. Most wines are produced from grapes throughout the world, however, fruits other than grapes, including apple, plum, peach, pear, berries, cherries, currants, apricot, and many others can also be profitably utilized in the production of wines. The major problems in wine production, however, arise from the difficulty in extracting the sugar from the pulp of some of the fruits, or finding that the juices obtained lack in the requisite sugar contents, have higher acidity, more anthocyanins, or have poor fermentability. The book demonstrates that the application of enzymes in juice extraction, bioreactor technology, and biological de-acidification (MLF bacteria, or de-acidifying yeast like schizosaccharomyces pombe, and others) in wine production from non-grape fruits needs serious consideration. Focuses on producing non-grape wines, highlighting their flavor, taste, and other quality attributes, including their antioxidant properties Provides a single-volume resource that consolidates the research findings and developed technology employed to make wines from non-grape fruits Explores options for reducing post-harvest losses, which are especially high in developing countries Stimulates research and development efforts in non-grape wines

Case Studies in the Wine Industry aims to close the gap between academic researchers and industry professionals through real world scenarios and field-based research. The book explores how consumer and sensory science has been implemented in the wine industry to achieve certain goals, including the rejuvenation of product image, the shaping of new market places, the achievement of market differentiation and geographical diffusion, the achievement of customer loyalty, and the promotion of traditional features of the product. There is an emerging demand from wine industry professionals and undergraduate and postgraduate students who attend business and agricultural
Where To Download Understanding Wine Technology The Science Of Wine Explained

studies courses who want to gain practical information through real cases and field-based research. Bridges the gap between scholars and practitioners in understanding consumers of wine Allows scientists and professionals to make the most of R&D outcomes Advances consumer science research to address business problems in the wine industry
Naturalness is a hot topic in the wine world. But what exactly is a natural wine? For this book, best-selling wine writer Jamie Goode has teamed up with winemaker and Master of Wine Sam Harrop to explore the wide range of issues surrounding authenticity in wine. Sam Harrop initially trained as a winemaker in New Zealand.

Interest in wine science has grown enormously over the last two decades as the health benefits of moderate wine consumption have become firmly established in preventing heart disease, stroke, cancer and dementia. The growth of molecular biology has allowed proper investigation of grapevine identity and lineage and led to improvements in the winemaking process.

Understanding Wine TechnologyA Book for the Non-scientist that Explains the Science of WinemakingDbqa Publishing

The second edition of Wine Science: Principles, Practice, Perception updates the reader with current processes and methods of wine science, including an analysis of the advantages and disadvantages of various new grape cultivar clones, wine yeast strains, and malolactic bacteria. It also addresses current research in wine consumption as related to health. The many added beautiful color photographs, graphs, and charts help to make the sophisticated techniques described easily understandable. This book is an essential part of any library. Key Features * Universally appealing to non-technologists and technologists alike * Includes section on Wine and Health which covers the effects of wine consumption on cardiovascular diseases, headaches, and age-related macular degeneration * Covers sophisticated techniques in a clear, easily understood manner * Presents a balance between the objective science of wine chemistry and the subjective study of wine appreciation * Provides updated information involving advantages/disadvantages of various grape cultivar clones, wine yeast strains, and malolactic bacteria * Chapter on recent historical findings regarding the origin of wine and wine making processes

Any student who has ever logged credits in a viticulture and enology class knows Bird's book. It is the most widely assigned wine science primer in the English speaking world. This completely revised and updated edition to Bird's classic textbook deciphers all the new scientific advances that have cropped up in the last several years, and conveys them in his typically clear and plainspoken style that renders even the densest subject matter freshman-friendly. New material includes: expanded section on the production of red, rose, white, sweet, sparkling and fortified wines; information on histamine, flash detente, maceration, whole bunch and whole berry fermentation; expanded chapter on wine faults, including Brettanomyces; new section on HACCP analysis as applied to a winery; and much more

Purple sweet potato (PSP) is a special type of sweet potato with high concentration of anthocyanin pigment in the root. It is rich in starch, sugar, minerals, vitamins and antioxidants like phenolics, ?-carotene, and has a strong prospect as substrate for alcoholic fermentation. The low cost of sweet potato and its prospective usage in the production of alcoholic beverages make it viable for commercialization. The book reviews the use of the roots of PSP for the production of three novel products, i.e. anthocyanin rich wine (red wine), herbal/medicinal sweet potato wine, and anthocyanin rich beer which have higher health benefit than other wines and beers. The book elucidates the use of novel technologies in the preparation of this non-conventional wine and beer, processing, biochemical and organoleptic quality of the finished products and health implications. It will be of interest to innovators, researchers and students. The novel technologies in wine and beer making described in the book will set a precedence for production of other alcoholic beverages from starchy sources.

Wine chemistry inspires and challenges with its complexity, and while this is intriguing, it can also be a barrier to further understanding. The
topic is demystified in Understanding Wine Chemistry, Special Mention awardee in the 2018 OIV awards, which explains the important chemistry of wine at the level of university education, and provides an accessible reference text for scientists and scientifically trained winemakers alike. Understanding Wine Chemistry: Summarizes the compounds found in wine, their basic chemical properties and their contribution to wine stability and sensory properties Focuses on chemical and biochemical reaction mechanisms that are critical to wine production processes such as fermentation, aging, physiochemical separations and additions Includes case studies showing how chemistry can be harnessed to enhance wine color, aroma, flavor, balance, stability and quality. This descriptive text provides an overview of wine components and explains the key chemical reactions they undergo, such as those controlling the transformation of grape components, those that arise during fermentation, and the evolution of wine flavor and color. The book aims to guide the reader, who perhaps only has a basic knowledge of chemistry, to rationally explain or predict the outcomes of chemical reactions that contribute to the diversity observed among wines. This will help students, winemakers and other interested individuals to anticipate the effects of wine treatments and processes, or interpret experimental results based on an understanding of the major chemical reactions that can occur in wine.

Grapevine Breeding Programs for the Wine Industry: Traditional and Molecular Techniques summarizes recent trends in grapevine breeding, both in terms of research and practical programs. The first group of chapters covers the challenges faced by breeders and existing and emerging techniques used to combat them. Two further groups of chapters focus on grapevine breeding programs in different wine-producing countries around the world. With authoritative contributions from experts across the world’s winemaking regions, this book will be an essential reference for all those involved in viticulture and oenology wanting to explore new methods, understand different approaches and refine existing practices. Covers challenges faced by breeders Highlights grapevine breeding programs in different wine-producing countries Contributions from experts across the world’s winemaking regions

Molecular Wine Microbiology features rigorous scientific content written at a level comprehensible for wine professionals as well as advanced students. It includes information on production and spoilage issues, the microbial groups relevant for wine production and microbial wine safety. Microbiology has long been recognized as a key tool in studying wine production, however only recently have wine microbiology studies been addressed at a molecular level, increasing the understanding of how microbiology impacts not only the flavor quality of the wine, but also its safety. Understanding, at a molecular level, how a starter culture can impact ethanol, glycerol, volatile phenols, mannoproteins, biogenic amines or ochratoxin A of a wine are just some of the core points that must be considered in order to achieve maximum consumer acceptability while addressing safety concerns during processing and storage. While other books offer insights into the technological aspects of enology, this book is written by expert microbiologists, who explore the positive and negative impacts of gene function in the production of wine, from a microbiological point of view. Winner of the 2012 Jury Award in Enology from the International Organisation of Vine and Wine Presents the most current methods of studying the microbiology of wine Includes latest identification and typing methods, reducing identification time from days and weeks to minutes and hours Provides important knowledge about the impact of microbiological factors at the molecular level for reduction of wine spoilage and increased wine quality and safety
In Postmodern Winemaking, Smith shares knowledge he has accumulated in engaging, humorous, and erudite essays that convey a new vision of the winemaker's craft—one that credits the crucial roles played by both science and art in the winemaking process. Smith, a leading innovator in red wine production techniques, explains how traditional enological education has led many winemakers astray—enabling them to create competent, consistent wines while putting exceptional wines of structure and mystery beyond their grasp. Great wines, he claims, demand a personal and creative engagement with many elements of the process. His lively exploration of the facets of postmodern winemaking, together with profiles of some of its practitioners, is both entertaining and enlightening.

ALL YOU NEED TO KNOW ABOUT GROWING VINES IN 123 PAGES. This book is a an introduction to the professional world of growing grapes and aimed at the serious student in the wine trade, WSET Diploma student or Master of Wine candidate. It is also very useful for those thinking of setting up vineyards as it answers a lot of the basic questions. Has sold over 4,500 copies now and received LOTS of emails saying how helpful it has been. Couldn't have become an MW without your book was the latest endorsement! This book is also being sold on www.lulu.com at a lower price.

As the wine industry has experienced a period of rapid global expansion, there is a renewed emphasis on quality and consistency even within the small winery industry. Written for the small production program, A Complete Guide to Quality in Small-Scale Wine Making is for the novice to intermediate level winemaker seeking foundational information in chemistry and sensory science as they relate to wine quality at a technical level. Drawing from personal experience as well as scientific literature, this book introduces the core concepts of winemaking before delving into methods and analysis to provide practical insights into creating and maintaining quality in the wine product. Understand the chemistry and sensory science at the foundation of quality wines Explore real-world examples of key analysis and application of concepts Practice methods and exercises for hands-on experience From OIV-award-winning author, Ronald S. Jackson, Wine Tasting: A Professional Handbook, Third Edition, is an essential guide for any professional or serious connoisseur seeking to understand both the theory and practice of wine tasting. From techniques for assessing wine properties and quality, including physiological, psychological, and physicochemical sensory evaluation, to the latest information on the types of wine, the author guides the reader to a clear and applicable understanding of the wine tasting process. With its inclusion of illustrative data and testing technique descriptions, the book is ideal for both those who train tasters, those involved in designing wine tastings, and the connoisseur seeking to maximize their perception and appreciation of wine. Contains revised and updated coverage, notably on the physiology and neurology of taste and odor perception Includes expanded coverage of the statistical aspect of wine tasting (specific examples to show the process), qualitative wine tasting, wine language, the origins of wine quality, and food and wine combination Provides a flow chart of wine tasting steps and production procedures Presents practical details on wine storage and the problems that can occur both during and following bottle opening Revised edition of: Wine production / Keith Grainger and Hazel Tattersall. Oxford; Ames, Iowa: Blackwell Pub., 2005.

Red Wine Technology is a solutions-based approach on the challenges associated with red wine production. It focuses on the
technology and biotechnology of red wines, and is ideal for anyone who needs a quick reference on novel ways to increase and improve overall red wine production and innovation. The book provides emerging trends in modern enology, including molecular tools for wine quality and analysis. It includes sections on new ways of maceration extraction, alternative microorganisms for alcoholic fermentation, and malolactic fermentation. Recent studies and technological advancements to improve grape maturity and production are also presented, along with tactics to control PH level. This book is an essential resource for wine producers, researchers, practitioners, technologists and students. Winner of the OIV Award 2019 (Category: Enology), International Organization of Vine and Wine Provides innovative technologies to improve maceration and color/tannin extraction, which influences color stability due to the formation of pyranoanthocyanins and polymeric pigments Contains deep evaluations of barrel ageing as well as new alternatives such as microoxigenation, chips, and biological ageing on lees Explores emerging biotechnologies for red wine fermentation including the use of non-Saccharomyces yeasts and yeast-bacteria coinoculations, which have effects in wine aroma and sensory quality, and also control spoilage microorganisms A concise, up-to-date overview of the applications of mass spectrometry To be able to estimate the potentiality of grapes and how it may be transferred into wine is key to grasping enological chemistry. Nowadays, mass spectrometry is a crucial aspect in ensuring the production, the quality, and the safety of grape, wine, and grape derivative products. Mass Spectrometry in Grape and Wine Chemistry examines in depth the relationship between the high structural identification power of mass spectrometry techniques and the chemistry of grapes and wine. The text is divided into two parts. The first section provides an overview of mass spectrometry methods in relation to enology in three chapters. The second section offers seven chapters on wine chemistry as well as traditional topics and new developments in mass spectrometry. Mass Spectrometry in Grape and Wine Chemistry explores many mass spectrometry applications, including: Ionization methods Mass analyzers and mass measurements Mass spectrometry methodologies Grape aroma compounds Volatile and aroma compounds in wines Grape and wine polyphenols Compounds released by wood into wine Wine defects caused by compounds Pesticide detection analysis Peptides and proteins of grape and wine Written by leading experts in the field, this book presents an introduction to mass spectrometry and outlines ways to maximize quality control and product safety for the best results. Mass Spectrometry in Grape and Wine Chemistry is an essential handbook for laboratories working in enology.

More than 150 years after Louis Pasteur attributed fermentation to a living organism, the field of wine microbiology and chemistry is vibrant with discovery. The last decade alone has seen great strides in our understanding of the biochemistry involved in vinification. In this new edition of his classic text, Yair Margalit gives the complete and current picture of the basic and advanced science behind these processes, making the updated Concepts in Wine Chemistry the broadest and most meticulous book on the topic in print. Organized to track the sequence of the winemaking process, chapters cover must and wine composition, fermentation, phenolic compounds, wine oxidation, oak products, sulfur dioxide, cellar processes, and wine defects. Margalit ends with chapters detailing the regulations and legal requirements in the production of wine, and the history of wine chemistry and
winemaking practices of old.

WINE FAULTS AND FLAWS Wine Faults and Flaws: A Practical Guide An essential guide to the faults and flaws that can affect wine. Written by the award-winning wine expert, Keith Grainger, this book provides a detailed examination and explanation of the causes and impact of the faults, flaws and taints that may affect wine. Each fault is discussed using the following criteria: what it is; how it can be detected by sensory or laboratory analysis; what the cause is; how it might be prevented; whether an affected wine is treatable, and if so, how; and the science applicable to the fault. The incidences of faulty wines reaching the consumer are greater than would be regarded as acceptable in most other industries. It is claimed that occurrences are less common today than in recent recorded history, and it is true that the frequency of some faults and taints being encountered in bottle has declined in the last decade or two. However, incidences of certain faults and taints have increased, and issues that were once unheard of now affect many wines offered for sale. These include ‘reduced’ aromas, premature oxidation, atypical ageing and, very much on the rise, smoke taint. This book will prove invaluable to winemakers, wine technologists and quality control professionals. Wine critics, writers, educators and sommeliers will also find the topics highly relevant. The wine-loving consumer, including wine collectors will also find the book a great resource and the basis for discussion at tastings with like-minded associates.

Jurassic, basalt, moraine, flint, alluvial, magma: what are these words and what do they have to do with wine? The answers are here in this book. They are geological terms that reflect a bond between wine and the land. Understanding geology, however, is tricky. Geological concepts are obscure; processes can be imperceptibly slow, invisible, and unimaginably ancient. The terminology is formidable, such that even the names of common rocks carry an air of mystery. Geology is introduced plainly, starting with basic principles, all in the context of wine. The emphasis is on the kinds of processes that shape vineyards, and on the minerals, rocks and soils that host the vines. Geological words now commonly seen in wine writings are systematically explained. You will learn the stories behind some of the names, the human face of geology. The book also explores how the geology-wine connection manifests in the finished product and evaluates its importance, particularly in the contexts of minerality, terroir, and wine taste. The fact is that geology is increasingly being promoted in the world of wine; the aim here is to help it be properly understood.

Many aspects of both grape production and winemaking influence wine sensory properties and stability. Progress in research helps to elucidate the scientific basis of quality variation in wine and suggest changes in viticulture and oenology practices. The two volumes of Managing wine quality review developments of importance to wine producers, researchers, and students. The focus is on recent studies, advanced methods and likely future technologies. The first volume Viticulture and wine quality opens with chapters reviewing current understanding of wine aroma, colour, taste and mouthfeel. Part two focuses on the measurement of grape and wine properties. Topics covered include instrumental analysis of grape, must and wine, sensory evaluation and wine authenticity and traceability. The effects of viticulture technologies on grape composition and wine quality attributes are the subject of part three. Terroir, viticultural and vineyard management practices, fungal contaminants and grape processing equipment are
among the areas discussed. With authoritative contributions from experts across the world's winemaking regions, Managing wine quality: Volume 1: Oenology and wine quality is an essential reference for all those involved in viticulture and oenology wanting to explore new methods, understand different approaches and refine existing practices. Reviews current understanding of wine aroma, colour, taste and mouthfeel. Details the measurement of grape and wine properties through instrumental analysis, must and wine, and sensory evaluation. Examines viticulture and vineyard management practices, fungal contaminants and processing equipment.

"The Science of Wine does an outstanding job of integrating 'hard' science about wine with the emotional aspects that make wine appealing."--Patrick J. Mahaney, former senior Vice President for wine quality at Robert Mondavi Winery "Jamie Goode is a rarity in the wine world: a trained scientist who can explain complicated subjects without dumbing them down or coming over like a pointy head. It also helps that he's a terrific writer with a real passion for his subject."--Tim Atkin MW, The Observer

The aim of this book is to describe the fundamental aspects and details of certain gas chromatography applications in Plant Science, Wine technology, Toxicology and the other specific disciplines that are currently being researched. The very best gas chromatography experts have been chosen as authors in each area. The individual chapter has been written to be self-contained so that readers may peruse particular topics but can pursue the other chapters in each section to gain more insight about different gas chromatography applications in the same research field. This book will surely be useful to gas chromatography users who are desirous of perfecting themselves in one of the important branch of analytical chemistry.

Any student who has ever logged credits in a viticulture and enology class knows David Bird's book: it is the most widely assigned wine science primer in the English-speaking world. This completely revised and updated edition to Bird's classic textbook deciphers all the new scientific advances from the last several years, and conveys them in his typically clear and plainspoken style that renders even the densest subject matter freshman friendly. The new material includes an expanded section on the production of red, rose, white, sweet, sparkling, and fortified wines; information on histamine, flash detente, maceration, and whole bunch and whole berry fermentation; an expanded chapter on wine faults, including Brettanomyces; a new section on HACCP analysis as applied to a winery; and much more.

Following up on his bestselling Winery Technology and Operations, physical chemist and winemaker Yair Margalit comes out with the successive, Concepts in Wine Technology, fully updated and revised to meet the advances of modern winemaking. Among the extended topics are fermentation, skin contact, acid balance, phenolics, bottling, the use of oak and quality control. He begins in the vineyard discussing proper maturation, soil and climate, bunch health, vineyard disease states, and grape varieties. Next he tackles the preharvest with a careful look at vineyard management and preparing the winery for harvest. Dr. Margalit then outlines the entire process of harvesting, from destemming, crushing, and skin contact as it applies to both red and white grapes to pressing, must correction, and temperature control. Fermentation is examined fully and includes a lengthy look at the factors affecting malo-lactic fermentation and its pros and cons. There is a chapter on cellar operations that deals with racking,
stabilization, fining, filtration, blending, and maintaining winery hardware, followed by sections on barreling and bottling. The final chapter pulls together the more general aspects of wine technology, covering sulphur-dioxides, different forms of wine spoilage and ways to ward them off, legal regulations and, one of the most important and enigmatic compounds in wine, phenolics.

The "Microbiology" volume of the new revised and updated Handbook of Enology focuses on the vinification process. It describes how yeasts work and how they can be influenced to achieve better results. It continues to look at the metabolism of lactic acid bacteria and of acetic acid bacteria, and again, how can they be treated to avoid disasters in the winemaking process and how to achieve optimal results. The last chapters in the book deal with the use of sulfur-dioxide, the grape and its maturation process, harvest and pre-fermentation treatment, and the basis of red, white and speciality wine making. The result is the ultimate text and reference on the science and technology of the vinification process: understanding and dealing with yeasts and bacterias involved in the transformation from grape to wine. A must for all serious students and practitioners involved in winemaking.

*** "Jamie Goode is a rarity in the wine world: a trained scientist who can explain complicated subjects without dumbing them down or coming over like a pointy head. It also helps that he's a terrific writer with a real passion for his subject." - Tim Atkin MW, Observer This revolutionary book is the only in-depth reference to detail the processes, developments and factors affecting the science of winemaking. Jamie Goode, a highly regarded expert on the subject, skilfully opens up this complex subject and explains the background to the various processes involved and the range of issues surrounding their uses. He reports on the vital progress in winemaking research and explains the practical application of science with reference to the range of winemaking techniques used around the world, as well as viticultural practices, organics and ecology and lifestyle influences. This third edition of Wine Science includes new sections such as managing vineyard soils, vine disease and the vineyard of the future. Jamie has updated the text throughout, and many existing chapters are entirely revised. Written in a uniquely accessible style, the book is divided into three sections covering the vineyard, the winery and human interaction with wine. It features more than 80 illustrations and photographs to help make even the most complex topics clear, straightforward and easy to understand.

Wine Science, Third Edition, covers the three pillars of wine science – grape culture, wine production, and sensory evaluation. It takes readers on a scientific tour into the world of wine by detailing the latest discoveries in this exciting industry. From grape anatomy to wine and health, this book includes coverage of material not found in other enology or viticulture texts including details on cork and oak, specialized wine making procedures, and historical origins of procedures. Author Ronald Jackson uniquely breaks down sophisticated techniques, allowing the reader to easily understand wine science processes. This updated edition covers the chemistry of red wine color, origin of grape varieties, wine language, significance of color and other biasing factors to wine perception, various meanings and significance of wine oxidation. It includes significant additional coverage on brandy and ice wine production as well as new illustrations and color photos. This book is recommended for grape growers, fermentation technologists; students of enology and viticulture, enologists, and viticulturalists. NEW to this edition: * Extensive revision and additions on: chemistry of red wine color, origin of grape varieties, wine language, significance of color and other biasing factors to wine perception, various meanings and significance of wine oxidation * Significant additional coverage on brandy and ice wine production * New illustrations and color photos

Wine is one of the oldest forms of alcoholic beverages known to man. Estimates date its origins back to 6000 B.C. Ever since, it has occupied a significant role in our lives, be it for consumption, social virtues, therapeutic value, its flavoring in foods, etc. A study of wine production and
the technology of winemaking is thus imperative. The preparation of wine involves steps from harvesting the grapes, fermenting the must, maturing the wine, stabilizing it finally, to getting the bottled wine to consumers. The variety of cultivars, methods of production, and style of wine, along with presentation and consumption pattern add to the complexity of winemaking. In the past couple of decades, there have been major technological advances in wine production in the areas of cultivation of grapes, biochemistry and methods of production of different types of wines, usage of analytical techniques has enabled us to produce higher quality wine. The technological inputs of a table wine, dessert wine or sparkling wine, are different and has significance to the consumer. The role played by the killer yeast, recombinant DNA technology, application of enzyme technology and new analytical methods of wine evaluation, all call for a comprehensive review of the advances made. This comprehensive volume provides a holistic view of the basics and applied aspects of wine production and technology. The book comprises production steps, dotted with the latest trends or the innovations in the fields. It draws upon the expertise of leading researchers in the wine making worldwide.

Sometimes we just want someone to hand us a bottle of wine. Sometimes we want to learn more about that wine. And sometimes we want to feel something about wine. In Vignette, sommelier Jane Lopes recommends the 100 bottles of wine (and some spirits and beers) to best expand your wine journey, giving you a complete palate education of the important styles, grapes, regions, and flavors of this magical and ever-growing world. Alongside that, you will find imaginative ways to engage with the foundational wine knowledge that underpins a good drinking experience. And then there is Jane's own narrative – the stories of triumph and defeat that comprise her life in wine. It's part memoir and part wine book, but a lot more fun than either alone. These are wines to live with, learn from and take solace in – a joyous, surprising, and revelatory response to that age-old question, "What should I drink?"

An up-to-the-moment new edition of Jamie Goode’s celebrated wine science book. A thoroughly revised and updated third edition of this essential and groundbreaking reference gives a comprehensive overview of one of the most fascinating, important, and controversial trends in the world of wine: the scientific and technological innovations that are now influencing how grapes are grown and how wine is made. Jamie Goode, an authority on wine science, details the key scientific developments relating to viticulture and enology, explains the practical application of science to techniques that are used around the world, and explores how these issues are affecting the quality, flavor, and perception of wine. The only complete and accessibly written resource available on the subject, The Science of Wine engagingly discusses a wide range of topics including terroir, the influence of soils on wine flavor, breeding new resistant grape varieties, the effects of climate change on grape growing, the role of yeasts and bacteria in winemaking, and much more. A must-have reference for a wide audience of students, winemakers, wine professionals, and general readers interested in the science of wine.