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Molecular and Quantitative Animal Genetics - Hasan Khatib 2015-03-02

Animal genetics is a foundational discipline in the fields of animal science, animal breeding, and veterinary sciences. While genetics underpins the healthy development and breeding of all living organisms, this is especially true in domestic animals, specifically with respect to breeding for key traits. Molecular and Quantitative Animal Genetics is a new textbook that takes an innovative approach, looking at both quantitative and molecular breeding approaches. The book provides a comprehensive introduction to genetic principles and their applications in animal breeding. This text provides a useful overview for those new to the field of animal genetics and breeding, covering a diverse array of topics ranging from population and quantitative genetics to epigenetics and biotechnology. Molecular and Quantitative Animal Genetics will be an important and invaluable educational resource for undergraduate and graduate students and animal agriculture professionals. Divided into six sections pairing fundamental principles with useful applications, the book's comprehensive coverage will make it an ideal fit for students studying animal breeding and genetics at any level.

**Coffee: From the Field to the Cup** - Paulo Mazzafera 2022-08-08

Understanding Petroleum Reservoirs - John M. Cubitt 2004

Shaping of Human Immune System and Metabolic Processes by Viruses and Microorganisms - Marina I. Arleevskaya 2019-08-15

Recent advances in the understanding of microbiota in health and diseases are presented in this special issue of *Frontiers in Immunology* and *Frontiers in Microbiology* as well as their impact on the immune system that can lead to the development of pathologies. Potential perspectives and biomarkers are also addressed. We offer this Research Topic involving 64 articles and 501 authors to discuss recent advances regarding: 1. An overview of the human microbiota and its capacity to interact with the human immune system and metabolic processes, 2. New developments in understanding the immune system's strategies to respond to infections and escape strategies used by pathogens to counteract such responses, 3. The link between the microbiota and pathology in terms of autoimmunity, allergy, cancers and other diseases.

*International Journal of Systematic and Evolutionary Microbiology*

Environmental Toxicology and Chemistry - 2006

*Pal m Ql: Proceedi ngs of agri cul ture, bi ote chnol ogy & sustai nabi lity confere nce. pt. 1. Oral papers. pt. 2. Poster papers* 2007

*Miss Spectrometry Handbook* - Mike S. Lee 2012-05-08

Due to its enormous sensitivity and ease of use, mass spectrometry has grown into the analytical tool of choice in most industries and areas of research. This unique reference provides an extensive library of methods used in mass spectrometry, covering applications of mass spectrometry in fields as diverse as drug

discovery, environmental science, forensic science, clinical analysis, polymers, oil composition, doping, cellular research, semiconductor, ceramics, metals and alloys, and homeland security. The book provides the reader with a protocol for the technique described (including sampling methods) and explains why to use a particular method and not others. Essential for MS specialists working in industrial, environmental, and clinical fields.

**Fire Debris Analysis** - Eric Stauffer 2007-12-10

The study of fire debris analysis is vital to the function of all fire investigations, and, as such, Fire Debris Analysis is an essential resource for fire investigators. The present methods of analysis include the use of gas chromatography and gas chromatography-mass spectrometry, techniques which are well established and used by crime laboratories throughout the world. However, despite their universality, this is the first comprehensive resource that addresses their application to fire debris analysis. Fire Debris Analysis covers topics such as the physics and chemistry of fire and liquid fuels, the interpretation of data obtained from fire debris, and the future of the subject. Its cutting-edge material and experienced author team distinguishes this book as a quality reference that should be on the shelves of all crime laboratories. Serves as a comprehensive guide to the science of fire debris analysis Presents both basic and advanced concepts in an easily readable, logical sequence Includes a full-color insert with figures that illustrate key concepts discussed in the text

**Environmental Toxicology II** - C. A. Brebbia 2008

Environmental toxicology is one of the most interdisciplinary sciences. Biologists, microbiologists, chemists, engineers, environmentalists, ecologists and other scientists work together in this new scientific discipline. Assessment of the environmental effects of chemicals is complicated as it depends on the organisms tested and involves not only the toxicity of individual chemicals, but also their interactive effects (including antagonistic and synergistic ones), and genotoxicity, mutagenicity and immunotoxicity testing. Hazardous waste management is closely related to environmental toxicology and there is a growing need for techniques and practices to minimize the environmental effects of chemicals. This volume contains the contributions presented at the 2nd Conference on Environmental Toxicology, which was held in Granada, Spain in 2008. The papers cover the following subject areas: Risk Assessment; Human Health Risk; Effluent Toxicity; Bioaccumulation of Chemicals; Biodegradation and Bioremediation; Biological Effects Monitoring; Laboratory Tests and Validation; Ecotoxicity of Emerging Chemicals; New Trends in Environmental Toxicology.

**Canadian Journal of Fisheries and Aquatic Sciences** - 2011-09

**Influence of Evaporation and Matrix Interferences on the Association and Discrimination of Ignitable Liquids Using Chemometric Procedures** - Tiffany Paige Van De Mark 2010

**Modern Methods and Applications in Analysis of Explosives** - Jehuda Yinon 1996-08-06

An up-to-date handbook, with the latest advances including all the various methods and techniques for analyzing explosives. Explosive compounds and mixtures, residues--their recovery and clean-up procedures-

-chromatography, polarography, spectroscopy, environmental analysis and mass spectroscopy are among the topics covered.

**Pesticides** - Margarita Stoytcheva 2011-01-21

This book provides recent information on various analytical procedures and techniques, representing strategies for reliability, specificity, selectivity and sensitivity improvements in pesticides analysis. The volume covers three main topics: current trends in sample preparation, selective and sensitive chromatographic detection and determination of pesticides residues in food and environmental samples, and biological (immunoassays-and biosensors-based) methods application in pesticides analysis as an alternative to the chromatographic methods for "in situ" and "on line" pesticides quantification. Intended as electronic edition, providing an immediate "open access" to its content, the book is easy to follow and will be of interest to the professionals involved in pesticides analysis.

**Identification and Characterization of Contrasting Genotypes/Cultivars to Discover Novel Players in Crop Responses to Abiotic/Biotic Stresses** - Raul Antonio Sperotto 2022-02-24

**Cooperative Adaptations and Evolution in Plant-Microbe Systems** - Tatiana Matveeva 2018-11-02

Ecological and evolutionary genetics of plant-microbe interactions is of high importance for developing the plant science since the plants originated symbiotically (via incorporation of a phototrophic cyanobacterium into a heterotrophic eukaryon) and further evolve as the multipartite symbiotic systems, harboring the enormously diverse microbial communities. The Research Topic has integrated the top-level research on the genetic interactions in the plant-microbial associations required to develop the novel evolutionary approaches in the molecular and ecological genetics of different kinds of symbioses.

**The Science of Meat Quality** - Chris R. Kerth 2013-04-03

Meat has been a long sought after source of nutrients in human diets. Its nutrient-dense composition of protein, fats, vitamins and minerals makes it an integral part to healthy and balanced diets. As demand for meat continues to increase globally, a better understanding of efficiently producing quality meat products is becoming increasingly important. The Science of Meat Quality provides comprehensive coverage of meat quality from the biological basis of muscle development to end-product-use topics such as preparation and sensory analysis. The Science of Meat Quality explores the basis of meat quality long before it hits grocery store shelves. The book opens with a look at cellular muscle tissue development, metabolism and physiology. Subsequent chapters look at topics surrounding the development of tenderness, water-holding capacity, lipid oxidation and color in meat products. The final chapters discuss producing a good-tasting end product from preparing meat to preventing food-borne illness. Each chapter contains not only the theory behind that topic, but also detailed lab methodologies for measuring each meat quality trait. The Science of Meat Quality is an essential resource and reference for animal scientists, meat scientists, food scientists, and food industry personnel. Meat has been a long sought after source of nutrients in human diets. Its nutrient-dense composition of protein, fats, vitamins and minerals makes it an integral part to healthy and balanced diets. As demand for meat continues to increase globally, a better understanding of efficiently producing quality meat products is becoming increasingly important. The Science of Meat Quality provides comprehensive coverage of meat quality from the biological basis of muscle development to end-product-use topics such as preparation and sensory analysis. The Science of Meat Quality explores the basis of meat quality long before it hits grocery store shelves. The book opens with a look at cellular muscle tissue development, metabolism and physiology. Subsequent chapters look at topics surrounding the development of tenderness, water-holding capacity, lipid oxidation and color in meat products. The final chapters discuss producing a good-tasting end product from preparing meat to preventing food-borne illness. Each chapter contains not only the theory behind that topic, but also detailed lab methodologies for measuring each meat quality trait. The Science of Meat Quality is an essential resource and reference for animal scientists, meat scientists, food scientists, and food industry personnel.

**Understanding Wine Microbiota: Challenges and Opportunities** - Alice Lonvaud 2019-08-16

Wine yeast and bacteria have been extensively characterized in terms of physiological and metabolic traits largely in pure culture analyses. Winemaking practices derived from this basic knowledge have undoubtedly improved wine quality. Phylogenetic studies and genome comparisons in extensive collections

have revealed the processes of evolution and adaptation of the two main microbial species, *Saccharomyces cerevisiae* and *Oenococcus oeni*, present in wine. However, grapes and grape juice contain a variety of microorganisms and these principal agents of fermentation are in fact part of a complex microbial community that evolves dynamically in a special niche. Thanks to the new methods of analysis, the complexity of the microbiota can be measured in any sample of must or wine. In addition, there is greater appreciation of diversity within the main species present in wine. Intraspecific diversity has been evaluated in yeast and bacteria species and strains can be typed even in the mixture of selected or indigenous strains. Descriptions of microbial profiles in all the regions of the world suggest that the microbiota is a significant element of terroir or regional signature. It is no longer enough to simply describe what is present. It is important to consider evolution, physiology and metabolism taking into account microbial interactions within the community. Research in wine microbiology has also expanded our understanding of the participation and role of non-*Saccharomyces* organisms in winemaking, and refined knowledge on microbial spoilage. However, it is challenging to go from the simple description of these phenomena to their interpretation. The greatest difficulty lies in analyzing the functioning of the extraordinary complex system of yeast and bacteria present during different stages of the fermentation. Interactions in the very particular environment of fermenting grape induce alternations of relative populations' dominances and declines with subsequent impacts on wine composition. Some mechanisms have been identified or suggested, but much remains to be done. The recent advent of inoculation with non-*Saccharomyces* in oenological practice, sometimes leading to inconstant results, reflects the profound gaps that exist in knowledge of the complexity of fermentation and wine microbial ecosystems. Understanding how the microbial community works is expected to provide a sound basis before using fermentation helpers and starters, taking into account the indigenous microbiota. It will also aid in monitoring and understanding native or uninoculated fermentations that rely on the complex interactions of grape, winery and fermentation biota for their aroma and flavor profile. The aim of this Research Topic was to bring together current knowledge on several key aspects of wine microorganism biology: i) Evolution / co-evolution of yeasts and bacteria in their process of domestication and adaptation to the oenological niche. ii) Mechanisms of interactions between species and strains, both on grapes and in grape must. iii) Metabolism and physiology of yeast and bacteria in interactions with each other and with the environment, considering to what extent expected objectives (typicity, lower alcohol, etc.,) can be reached by using selected strains. iv) Development of novel technologies or approaches for the assessment of changes in a dynamic microbial community and the linking of such changes to wine flavor and aroma properties. v) Diversity, ecology, physiology and metabolism of *B. bruxellensis*. Damage from this spoilage agent is not effectively prevented because we do not fully understand the biology of this species, particularly in interaction with other yeast and bacteria. Each chapter presents advances in these areas of study. Research in wine microbiology, particularly in the wine microbiome and its impacts on wine composition is enhancing our understanding of the complexities and dynamics of microbial food and beverage ecosystems.

**Sociobiology** - 2005

**Integrating Emerging Technologies into Marine Megafauna Conservation Management** - Peter H. Dutton 2020-01-16

**Analytical Chemistry** - Harold H. Trimm 2011-04-15

This collection presents a broad selection of recent research on analytical chemistry, including methods of determination and analysis as applied to plants, pharmaceuticals, foods, proteins, and more. Analytical chemistry is the study of what chemicals are present and in what amount in natural and artificial materials. Because these understandings are fundamental in just about every chemical inquiry, analytical chemistry is used to obtain information, ensure safety, and solve problems in many different chemical areas, and is essential in both theoretical and applied chemistry. Analytical chemistry is driven by new and improved instrumentation.

**Genetic Engineering News** 2005

**Microbes in the Spotlight** - A. Méndez-Vilas 2016-06-28

Microbes in the Spotlight: Recent Progress in the Understanding of Beneficial and Harmful Microorganisms contains a selection of papers presented at the VI International Conference on Environmental, Industrial and Applied Microbiology - BioMicroWorld2015 (Barcelona, Spain). This book offers the outcomes of completed and outgoing research works and experiences of several microbiology research groups across the world. The volume is divided into the following sections: --Agricultural and environmental microbiology. Biodeterioration, biodegradation, bioremediation --Food microbiology --Medical microbiology. Antimicrobial agents and chemotherapy. Antimicrobial resistance --Industrial microbiology. Microbial production of high-value products --Biotechnologically relevant enzymes and proteins --Methods and technology development --Microbial physiology Readers will find this book a useful opportunity to keep up with the latest research results, insights and advances in the microbiology field.

**Biological Activity of Natural Secondary Metabolite Products** - Toshio Morikawa 2018-09-20

This book is a printed edition of the Special Issue "Biological Activity of Natural Secondary Metabolite Products" that was published in IJMS

**Geological Quarterly** - 2012

**Toxicity of Nitroaromatic Compounds** Douglas E. Rickert 1985-01-01

**Two-Dimensional Liquid Chromatography** Oliver Jones 2020-07-13

This book addresses the growing interest in the field of two-dimensional liquid chromatography (2DLC), a powerful approach to increasing resolution, available peak capacity, and selectivity in analytical chromatography. 2DLC is suitable for many applications, including in the pharmaceutical and polymer industries and the omic sciences (metabolomics, lipidomics and proteomics). Thanks to recent advances in technology and software the instrumentation needed to perform 2D-LC is broadly available to the analytical community in both industry and academia. Indeed, the technique can now be considered ready for application in R&D as well as in QA and QC labs, yet it is not widely known about outside academic laboratories and is rarely taught at the undergraduate level. This book outlines the main principles and features of 2D-LC (including comprehensive and heart-cutting modes, method development and real world applications) to enable modern analysts to start using this fascinating technique. The book offers an ideal starting point for those wishing to get into 2D-LC and will also be of interest to more experienced scientists in the field.

**Engineering Challenges for Sustainable Future** - Noor Amila Wan Abdullah Zawawi 2016-12-01

Engineering Challenges for Sustainable Future contains the papers presented at the 3rd International Conference on Civil, Offshore & Environmental Engineering (ICCOEE2016, Kuala Lumpur, Malaysia, 15-17 August 2016), under the banner of World Engineering, Science & Technology Congress (ESTCON2016). The ICCOEE series of conferences started in Kuala Lumpur, Malaysia 2012, and the second event of the series took place in Kuala Lumpur, Malaysia 2014. This conference series deals with the civil, offshore & environmental engineering field, addressing the following topics: • Environmental and Water Resources Engineering • Coastal and Offshore Engineering • Structures and Materials • Construction and Project Management • Highway, Geotechnical and Transportation Engineering and Geo-informatics This book is an essential reading for academic, engineers and all professionals involved in the area of civil, offshore and environmental engineering.

**Association and Discrimination of Ignitable Liquids from Matrix Interferences Using Chemometric Procedures** - Jamie Melissa Baernkopf 2009

**Multifaceted Protocol in Biotechnology** Azura Amid 2019-01-23

This edited work presents useful methods in experimenting in the area of Bioprocessing and Biotechnology. The four sections cover the area of Bioprocess, Whole Cells & Isolated Biocatalyst, Characterization of Biochemical Products and Cell Isolation & Culture. Its enable researchers to choose a suitable method and

plan their experiments in details. The main focus of this book is to provide step by step method to young researchers, especially in the new research areas. Among the latest areas are the isolation of novel strain or enzyme by metagenomic approaches and taming procedure in the laboratories, development of novel, the cheap and non-toxic catalyst for biodiesel production, and production of micro-fibrillated cellulose. An updated method for well-known areas such as immobilization technology, biosensor, and polymerization was also presented. The book also covers in-silico methods such as MATLAB platform to ease researchers. Not to forget, the method in animal and plant culture is also discussed in detail. The book is written by chapter authors with much expertise in their fields. They have published multiple articles in the index listed journals. The topic of this book is particularly relevant to young researchers who are struggling to fine-tune their research and do not want to waste their time in optimizing the experiment set up.

**Phytoalexins: Current Progress and Future Prospects** - Philippe Jeandet 2018-10-08

This book is a printed edition of the Special Issue "Phytoalexins: Current Progress and Future Prospects" that was published in Molecules

**Journal of Chromatography** - 2001

**Disinfection By-products in Drinking Water** - Tanju Karanfil 2008

Since their discovery, disinfection by-products (DBPs) have become one of the major driving forces in drinking water regulations, research and water utility operations throughout the world. The list of DBPs that can occur in treated drinking waters has grown from a few trihalomethanes to a long list of halogenated and non-halogenated organic or inorganic compounds. This list is expected to continue to grow as the analytical techniques are improved, as more information on their toxicity is developed, and as more occurrence studies are conducted. This book documents the latest DBP research findings, including emerging issues and state-of-the-art studies. Specifically, papers on the occurrence, formation, control, and health effects of emerging (unregulated) halogenated (e.g., brominated) and nonhalogenated (e.g., nitrosamines) DBPs (e.g., emerging nitrogenous vs. regulated carbonaceous DBPs) are presented. In addition to the characterization and reactivity of natural organic matter to form DBPs, new studies on algal organic matter and treated wastewater as sources of DBPs and their precursors are discussed.

**Environmental Microbiology** - J. F. T. Spencer 2004

Understanding the relationship between a microorganism and its environment is essential to the successful manipulation of industrial, biochemical, and medical processes. In Environmental Microbiology: Methods and Protocols, highly practiced experimentalists who often have perfected the methods they write about describe readily reproducible techniques for determining most of the important factors governing microorganisms and their habitats. Presented in step-by-step detail, these cutting-edge methods range from those for the study of marine organisms, to those for investigating microorganisms occurring in groundwater, to the biodiversity found in remote environments. The protocols for studying fermented milks are significant for investigators concerned with milk as an item of food for infants, small children, and even adults. Additional methods for the recovery and determination of nucleic acids and other compounds affecting, and affected by, microorganisms, are provided for certain enzymes produced by plant pathogens and for obtaining microbial species tolerant of such inhibitors as heavy metals. Review articles discuss the endophytic bacterium *Bacillus mojavensis*, the engineering of bacteria to enhance their ability to carry out bioremediation of aromatic compounds, and the use of chemical shift reagents and Na-NMR to study sodium gradients in microorganisms. The protocols follow the successful Methods in Molecular Biology™ series format, each one offering step-by-step laboratory instructions, an introduction outlining the principle behind the technique, lists of equipment and reagents, and tips on troubleshooting and avoiding known pitfalls. State-of-the-art and highly practical, Environmental Microbiology: Methods and Protocols offers microbiological researchers a powerful set of techniques for investigating and understanding microorganisms in their native environments.

**Selective Detector** Robert E. Sievers 1995-04-03

A timely and authoritative review of the current state of selective detector technology This book was written for professionals who need to keep abreast of the latest developments and emerging trends in selective detectors and their applications. It comprises contributions from many of the leading innovators

and pioneers in the field, including James Lovelock, inventor of the electron capture detector, whose own contribution is certain to be a rich source of ideas and inspiration for all who read it. Offering a balanced presentation of theory and practice, *Selective Detectors* reviews the theory and underlying principles of a broad range of devices. Discusses, in detail, capabilities and current applications, with an emphasis on interdisciplinary applications, including environmental, petrochemical, biomedical, and quality control. Explores, in depth, the latest advances and emerging technologies. Arms readers with a wealth of practical "how-to" information on selecting, using, modifying, and building selective detectors for a wide range of applications. Future historians studying the late twentieth century will almost certainly come to view the advent of selective detectors as among the truly formative technological developments of the period. Anyone who doubts this thesis need only consider the impact of selective detection on environmental quality, the sciences, technology, medicine, business and industry, public policy, quality control, and many other fields. Yet, despite the obvious importance of selective detectors, there continues to be a scarcity of books dedicated to helping professionals keep abreast of the latest developments and emerging trends in this influential technology. This timely and authoritative review of the current state of selective detector technology fills that gap. This book focuses on the newest selective detectors for chromatographic analysis. Conceived and shepherded into existence by a major figure in analytical chemistry and environmental analysis, it includes contributions from many of the leading innovators and pioneers in the field. Most prominent among these is Dr. James Lovelock, inventor of the electron capture detector, whose chapter on the history and development of selective detectors will be a rich source of ideas and inspiration for all who read it. Offering a balanced presentation of theory and practice, *Selective Detectors* reviews the theory and underlying principles of selective detectors; discusses, in detail, their current capabilities and applications; explores the latest advances and emerging technologies; and arms readers with a wealth of practical "how-to" information on selecting, using, modifying, and building selective detectors for a wide range of applications. *Selective Detectors* is an invaluable resource for analytical chemists and technicians working in a variety of disciplines, including environmental science, petrochemical industries, the food and beverage industries, biotechnology, medicine, and more.

*Analysis of Drugs of Abuse* - Rabi A. Musah 2018-07-05

This volume features a comprehensive set of protocols featuring a range of both old and new technologies that can be used to analyze drugs of abuse, including prescription drugs, new psychoactive substances and

psychoactive plants. Chapters guide readers through the application of color tests, light microscopy-based particle imaging, GC-MS, Raman spectroscopy, capillary electrophoresis, ultra-high performance LC-tandem MS, DART-MS, MALDI-mass spectrometry imaging, LC-MS/MS and HPLC-ESI-MS/MS to the analysis of abused drugs in wastewater, hair, urine and plant-derived materials, among other matrices. Written in the highly successful *Methods in Molecular Biology* series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls. Authoritative and cutting-edge, *Analysis of Drugs of Abuse* aims to ensure successful results in the further study of this vital field.

**Identifying Ignitable Liquids in Fire Debris** - Jeanet Hendrikse 2015-10-05

*Identifying Ignitable Liquids in Fire Debris: A Guideline for Forensic Experts* discusses and illustrates the characteristics of different ignitable liquid products. This guideline builds on the minimum criteria of the ignitable liquid classes defined in the internationally accepted standard ASTM E1618 Standard Test Method for Ignitable Liquid Residues in Extracts from Fire Debris Samples by Gas Chromatography-Mass Spectrometry. The volume provides information on the origin of the characteristics of these ignitable liquid products and provides a summary of characteristics to demonstrate a positive identification of the particular product class. Topics such as the term ignitable liquid, relevant guidelines for fire debris analysis, production processes of ignitable liquids, fire debris analysis methods, and interferences in fire debris analysis, are briefly discussed as these topics are essential for the understanding of the identification and classification of ignitable liquid residues in fire debris. Discusses the characteristics and variations in chemical composition of different classes of the ignitable liquid products defined by ASTM E1618:14 Covers the General Production Processes of Ignitable Liquid Products Includes a guide for the Identification of Ignitable Liquids in Fire Debris

**Thermal Processing of Food** - Senate Commission on Food Safety SKLM 2007-09-24

This is the latest and most authoritative documentation of current scientific knowledge regarding the health effects of thermal food processing. Authors from all over Europe and the USA provide an international perspective, weighing up the risks and benefits. In addition, the contributors outline those areas where further research is necessary.

*Journal of Environmental Quality* - 2009