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Aphids as Crop Pests, 2nd Edition Frontiers Media SA
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Regulation of Heat Shock Protein Responses Springer Nature
The last ten years have witnessed a remarkable increase in our awareness of the importance of events subsequent to transcriptional initiation in terms of the regulation and control of gene expression. In particular, the development of recombinant DNA techniques that began in the 1970s provided powerful new tools with which to study the molecular basis of control and regulation at all levels. The resulting investigations revealed a diversity of post-transcriptional mechanisms in both prokaryotes and eukaryotes. Scientists working on translation, mRNA stability, transcriptional (anti)termination or other aspects of gene expression will often have met at specialist meetings for their own research area. However, only rarely do workers in different areas of post-transcriptional control/ regulation have the opportunity to meet under one roof. We therefore thought it was time to bring together leading representatives of most of the relevant areas in a small workshop intended to encourage interaction across the usual borders of research, both in terms of the processes studied, and with respect to the evolutionary division prokaryotes/eukaryotes. Given the breadth of topics covered and the restrictions in size imposed by the NATO workshop format, it was an extraordinarily difficult task to choose the participants. However, we regarded this first attempt as an experiment on a small scale, intended to explore the possibilities of a meeting of this kind. Judging by the response of the participants during and after the workshop, the effort had been worthwhile.

Seafood Choices Elsevier
Molecular Mechanisms of Protein Biosynthesis is a collection of papers dealing with cell-free systems at the molecular level, including transfer RNA; the initiation, elongation, and termination processes; ribosome structure and function; mRNA translation; and DNA-directed in vitro protein synthesis. A couple of papers review tRNA, aminoacyl-tRNA synthetases, and aspects of ribosome structure. One paper discusses affinity labeling in the study of binding and catalytic sites of large complex and heterogeneous systems such as the ribosome. The investigator should be aware of the chemically reactive or photoactivatible analogue reacting specifically with one or more ribosomal components. This reaction should be determined if it is dependent on the correct binding of the affinity label at the functional site. Another paper describes the series of reactions in protein synthesis as the process by which the ribosome moves relative to the messenger RNA. Other papers discuss messenger RNA and its translation, DNA-dependent cell-free protein synthesis, as well as the genetics of the translational apparatus. The collection will benefit microbiologists, biotechnologists, and academicians connected with the biological sciences.

Applications of RNA-Seq and Omics Strategies Elsevier
The second volume of the Book-Industrial Microbiology and Biotechnology covers various emerging concepts in microbial technology which have been developed to harness the potential of the microbes. The book examines the microbes-based products that have widespread applications in various domains i.e., agriculture, biorefinery, bioremediation, pharmaceutical, and medical sectors. It focusses on recent advances and emerging topics such as CRISPR technology, advanced topics of genomics, including functional genomics, metagenomics, metabolomics, and structural and system biology approaches for enhanced production of industrially relevant products. It further gives an insight into the advancement of genetic engineering with special emphasis on value-added products via microalgal systems and their techno-economics analysis and life cycle assessment. The book towards the end presents recent advancements in the use of microbes for the production of industrial relevant enzymes, amino acids, vitamins, and nutraceuticals, on vaccine development and their biomedical applications. The book is an essential source for researchers working in allied fields of microbiology, biotechnology, and bioengineering.

Post-Transcriptional Control of Gene Expression Springer Science & Business Media
Daniel C. Liebler masterfully introduces the science of proteomics by spelling out the basics of how one analyzes proteins and proteomes, and just how these approaches are then employed to investigate their roles in living systems. He explains the key concepts of proteomics, how the analytical instrumentation works, what data mining and other software tools do, and how these tools can be integrated to study proteomes. Also discussed are how protein and peptide separation techniques are applied in proteomics, how mass spectrometry is used to identify proteins, and how data analysis software enables protein identification and the mapping of modifications. In addition, there are proteomic approaches for analyzing differential protein expression, characterizing proteomic diversity, and dissecting protein-protein interactions and networks.

Comparative Genomics CRC Press
Current Protocols in Bioinformatics is the only publication that responds to the need for both a current and updateable source of bioinformatics methodology. This unique publication assures that you have access to a full range of bioinformatics protocols written by globally-recognized experts in the field, and that these proto-cols are updated and revised as new developments and innovations occur.

Arabidopsis BoD – Books on Demand
The Special Issue “ Plant Proteomics 3.0 ” was conceived in an attempt to address the recent advancements in as well as limitations of current proteomic techniques and their diverse applications to attain new insights into plant molecular responses to various biotic and abiotic stressors and the molecular bases of other processes. Proteomics ’ focus is also related to translational purposes, including food traceability and allergen detection. In addition, bioinformatic techniques are needed for more confident identification, quantitation, data analysis and networking, especially with non-model or orphan plants, including medicinal and meditational plants as well as forest tree species. This Special Issue contains 23 articles, including four reviews and 19 original papers.
Plant Responses to Biotic and Abiotic Stresses: Lessons from Cell Signaling Elsevier
Schizophrenia: New Insights for the Healthcare Professional: 2011 Edition is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Schizophrenia. The editors have built Schizophrenia: New Insights for the Healthcare Professional: 2011 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Schizophrenia in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Schizophrenia: New Insights for the Healthcare Professional: 2011 Edition has been produced by the world ’ s leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at http://www.ScholarlyEditions.com/.
Molecular Mechanisms of Protein Biosynthesis CSHL Press
The large potential of RNA sequencing and other "omics" techniques has contributed to the production of a huge amount of data pursuing to answer many different questions that surround the science's great unknowns. This book presents an overview about powerful and cost-efficient methods for a comprehensive analysis of RNA-Seq data, introducing and revising advanced concepts in data analysis using the most current algorithms. A holistic view about the entire context where transcriptome is inserted is also discussed here encompassing biological areas with remarkable technological advances in the study of systems biology, from microorganisms to precision medicine.
Photomorphogenesis in Plants Springer Science & Business Media
This book provides information about plant – environment studies and challenges for plant improvement to achieve food security. Plants face a wide range of environmental challenges, which are expected to become more intense as a result of global climate change. Plant – environment interactions play an important role in the functioning of ecosystems. There are habitats throughout the world that present challenges to crop plants, such as through a lack of water and excessive, or toxic, salts in the soil. Soil properties represent a strong selection pressure for plant diversity and influence the structure of plant communities and participate to the generation and maintenance of biodiversity. Plant communities selected by environment grow by modifying soil physical, chemical, and biological properties, with consequent effects on survival and growth of plants. The complexity of plant – environment interactions has recently been studied by developing a trait-based approach in which responses and effects of plants on environment were quantified and modeled. This fundamental research on plant – environment interaction in ecosystems is essential to transpose knowledges of functional ecology to environmental management. Plants have adapted to an incredible range of environment, and extensive researches on ecological and environmental plant physiology have provided mechanistic understanding of the survival, distribution, productivity, and abundance of plant species across the diverse climates of our planet. Ecophysiological techniques have greatly advanced our understanding of photosynthesis, respiration, plant water relations, and plant responses to abiotic and biotic stresses, from instantaneous to evolutionary timescales. Ecophysiological studies also provide the basis for scaling plant physiological processes from the tissue to the canopy, ecosystem, region, and to a large extent, the entire globe. Given the above, the author proposes to bring forth a comprehensive book, “ New Frontiers in Plant-Environment Interactions ” , highlighting the various emerging techniques and applications that are currently being used in plant – environment interaction research and its future prospects. The author is sure that this book caters the need of all those who are working or have interest in the above topic.
Integrative Genomics and Network Biology in Livestock and other Domestic Animals Frontiers Media SA
This book gathers knowledge about matrix-assisted laser desorption ionisation (MALDI) mass spectrometry imaging for postgraduate and professional researchers in academia and in industry where it has direct application to clinical research.
Plant Proteomic Research 2.0 Springer Nature
Technologies collectively called omics enable simultaneous measurement of an enormous number of biomolecules; for example, genomics investigates thousands of DNA sequences, and proteomics examines large numbers of proteins. Scientists are using these technologies to develop innovative tests to detect disease and to predict a patient's likelihood of responding to specific drugs. Following a recent case involving premature use of omics-based tests in cancer clinical trials at Duke University, the NCI requested that the IOM establish a committee to recommend ways to strengthen omics-based test development and evaluation. This report identifies best practices to enhance development, evaluation, and translation of omics-based tests while simultaneously reinforcing steps to ensure that these tests are appropriately assessed for scientific validity before they are used to guide patient treatment in clinical trials.
Laboratory Methods in Enzymology: DNA Humana
Issues in Environmental Research and Application: 2011 Edition is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Environmental Research and Application. The editors have built Issues in Environmental Research and Application: 2011 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Environmental Research and Application in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Issues in Environmental Research and Application: 2011 Edition has been produced by the world ’ s leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at http://www.ScholarlyEditions.com/.
Proteomics ScholarlyEditions
Fungal comparative genomics started in 2000 by the genome sequencing of several yeast species other than the canonical Saccharomyces cerevisiae. Since then, over 30 fungal genome sequences have become available. This set represents a total evolutionary divergence comparable to that between vertebrates and arthropods, but also contains closely related genomes. This volume describes how we can use this set of genomes to trace large and small-scale events in genome evolution, to extract information about highly conserved and less conserved sequence elements, and to develop novel methods in genomics that will have an impact on genomics at large.
Proteomics Data Analysis Springer
Advancements in high-throughput “ Omics ” techniques have revolutionized plant molecular biology research. Proteomics offers one of the best options for the functional analysis of translated regions of the genome, generating a wealth of detailed information regarding the intrinsic mechanisms of plant stress responses. Various proteomic approaches are being exploited extensively for elucidating master regulator proteins which play key roles in stress perception and signaling, and these approaches largely involve gel-based and gel-free techniques, including both label-based and label-free protein quantification. Furthermore, post-translational modifications,

subcellular localization, and protein – protein interactions provide deeper insight into protein molecular function. Their diverse applications contribute to the revelation of new insights into plant molecular responses to various biotic and abiotic stressors.

Evolution of Translational Omics Springer Nature

In light of mounting fishing pressures, increased aquaculture production and a growing concern for fish well-being, improved knowledge on the swimming physiology of fish and its application to fisheries science and aquaculture is needed. This book presents recent investigations into some of the most extreme examples of swimming migrations in salmons, eels and tunas, integrating knowledge on their performance in the laboratory with that in their natural environment. For the first time, the application of swimming in aquaculture is explored by assessing the potential impacts and beneficial effects. The modified nutritional requirements of “ athletic ” fish are reviewed as well as the effects of exercise on muscle composition and meat quality using state-of-the-art techniques in genomics and proteomics. The last chapters introduce zebrafish as a novel exercise model and present the latest technologies for studying fish swimming and aquaculture applications.

The Glycome Springer Nature

It is well established that certain strains of yeasts are suitable for transforming grape sugars into alcohol, while other yeast strains are not suitable for grape fermentations. Recent progress has clearly demonstrated that the sensory profile of a wine is characteristic of each vine cultivated, and the quality and technological characteristics of the final product varies considerably due to the strains which have performed and/or dominated the fermentation process. Because of their technological properties, wine yeast strains differ significantly in their fermentation performance and in their contribution to the final bouquet and quality of wine, such as useful enzymatic activities and production of secondary compounds related both to wine organoleptic quality and human health. The wine industry is greatly interested in wine yeast strains with a range of specialized properties, but as the expression of these properties differs with the type and style of wine to be made, the actual trend is in the use of selected strains, which are more appropriate to optimize grape quality. Additionally, wine quality can be influenced by the potential growth and activity of undesirable yeast species, considered spoilage yeasts, which cause sluggish and stuck fermentation and detrimental taste and aroma in the wine.

Genomics, Proteomics, and Metabolomics Royal Society of Chemistry

This book provides thorough coverage of high-throughput OMICs technologies for the monitoring of stem cells and regenerative medicine. Specific topics covered include the genomics, proteomics, and metabolomics aspects of regenerative medicine, metabolic profiling of mesenchymal stem cells, genome profiling of mesenchymal stem cells, OMICs monitoring of stem cell-derived exosomes, stem cell proteomics, lipidomics, OMICs profiling of cancer (stem) cells, and finally ethical considerations of OMICs-based investigations. Chapters are authored by world-renowned scientists who have valuable expertise in the field of OMICs and regenerative medicine. Genomics, Proteomics, and Metabolomics: Stem Cells Monitoring in Regenerative Medicine, part of Springer ’ s Stem Cell Biology and Regenerative Medicine series, is essential reading for researchers, clinicians, biologists, biochemists, and pharmaceutical experts conducting research in the fields of stem cell biology, molecular aspects of stem cell research, tissue engineering, regenerative medicine, cellular therapy, OMICs, bioinformatics, and ethics.

Introduction to Protein Structure Springer

This volume provides a comprehensive understanding of the enigmatic identity of the glycome, a complex but important area of research that has been largely ignored due to its complexity. The authors thoroughly deal with almost all aspects of the glycome, i.e., elucidation of the glycan identity enigma and its role in regulation of the cellular process, and in disease etiology. The book bridges the knowledge gap in understanding the glycome, from being a cell signature to its applications in disease etiology. In addition, it details many of the major insights regarding the possible role of the glycome in various diseases as a therapeutic marker. The book systematically covers the major aspects of the glycome, including the significance of substituting the diverse monosaccharide units to glycoproteins, the role of glycans in disease pathologies, and the challenges and advances in glycobiology. The authors stress the significance and huge encoding power of carbohydrates as well as provide helpful insights in framing the bigger picture. The Glycome: Understanding the Diversity and Complexity of Glycobiology details state-of-the-art developments and emerging challenges of glycome biology, which are going to be key areas of future research, not only in the glycobiology field but also in pharmaceutics.

Epicardial Adipose Tissue Springer Nature

The VitalBook e-book of Introduction to Protein Structure, Second Edition is inly available in the US and Canada at the present time. To purchase or rent please visit http://store.vitalsource.com/show/9780815323051Introduction to Protein Structure provides an account of the principles of protein structure, with examples of key proteins in their bio