Real-time PCR (RT-PCR) technology is highly flexible and many alternative instruments and fluorescent probe systems have been developed recently. The decreased hands-on time, increased reliability and improved quantitative accuracy of RT-PCR methods have contributed to the adoption of RT-PCR for a wide range of new applications.

This essential manual presents a comprehensive guide to the most up-to-date technologies and applications as well as providing an overview of the theory of this increasingly important technique. Renowned experts in the field describe and discuss the latest PCR platforms, fluorescent chemistries, validation software, data analysis, and internal and external controls. This timely and authoritative volume also discusses a wide range of RT-PCR applications including: clinical diagnostics, biodefense, RNA expression studies, validation of array data, mutation detection, food authenticity and legislation, NASBA, molecular haplotyping, and much more.

An essential book for all laboratories using PCR.

Chapter 1. An Introduction to Real-Time PCR. N. A. Saunders
Chapter 4. Reference Gene Validation Software for Improved Normalization. J. Vandesompele, M. Kubista and M. W. Pfaffl
Chapter 5. Data Analysis Software. M. W. Pfaffl, J. Vandesompele and M. Kubista
Chapter 8. Introduction to the Applications of Real-Time PCR. N.A. Saunders
Chapter 9. Analysis of mRNA Expression by Real-Time PCR. Stephen A. Bustin and Tania Nolan
Chapter 10. Validation of Array Data. Elisa Wurmbach
Chapter 11. Mutation Detection by Real-Time PCR. Elaine Lyon, Rong Mao and Jeffrey Swensen
Chapter 12. Real-Time NASBA. Julie D. Fox, Catherine Moore and Diana Westmoreland
Chapter 13. Applications in Clinical Microbiology. Andrew David Sails
Chapter 14. Diagnosis of Invasive Fungal Infections. D.S. Perlin
Chapter 15. Biodefense. Christina Egan, Nick M. Cirino and Kimberlee A. Musser
Chapter 17. Molecular Haplotyping by Real-time PCR. Genevieve Pont-Kingdon, Alison Millson and Elaine Lyon

Order from:
MALDI-TOF Mass Spectrometry in Microbiology
Edited by: Markus Kostrzewa and Sören Schubert (Published: 2016)

Aspergillus and Penicillium in the Post-genomic Era
Edited by: Ronald P. de Vries, Isabelle Benoit Gelber and Mikael Rødamd Andersen (Published: 2016)

The Bacteriocins: Current Knowledge and Future Prospects
Edited by: Robert L. Dorit, Sandra M. Roy and Margaret A. Riley (Published: 2016)

Omic s in Plant Disease Resistance
Edited by: Vijai Bhadauria (Published: 2016)

Acidophiles: Life in Extremely Acidic Environments
Edited by: Raquel Quatrini and D. Barrie Johnson (Published: 2016)

Climate Change and Microbial Ecology: Current Research and Future Trends
Edited by: Jürgen Marxsen (Published: 2016)

Biofilms in Bioremediation: Current Research and Emerging Technologies
Edited by: Gavin Lear (Published: 2016)

Microalgae: Current Research and Applications
Edited by: Maria-Nefeli Tsaloglou (Published: 2016)

Gas Plasma Sterilization in Microbiology: Theory, Applications, Pitfalls and New Perspectives
Edited by: Hideharu Shintani and Akikazu Sakudo (Published: 2016)

Virus Evolution: Current Research and Future Directions
Edited by: Scott C. Weaver, Mark Denison, Marilyn Roossinck and Marco Vignuzzi (Published: 2016)

Arboviruses: Molecular Biology, Evolution and Control
Edited by: Nikos Vasilakis and Duane J. Gubler (Published: 2016)

Shigella: Molecular and Cellular Biology
Edited by: William D. Picking and Wendy L. Picking (Published: 2016)

Aquatic Biofilms: Ecology, Water Quality and Wastewater Treatment
Edited by: Anna M. Romani, Helena Guasch and M. Dolors Balaguer (Published: 2016)

Alphaviruses: Current Biology
Edited by: Suresh Mahalingam, Lara Herrero and Belinda Herring (Published: 2016)

Thermophilic Microorganisms
Edited by: Fu-Li Li (Published: 2015)

Flow Cytometry in Microbiology: Technology and Applications
Edited by: Martin G. Wilkinson (Published: 2015)

“an impressive group of experts” (ProtoView)

Probiotics and Prebiotics: Current Research and Future Trends
Edited by: Koen Venema and Ana Paula do Carmo (Published: 2015)

Epigenetics: Current Research and Emerging Trends
Edited by: Brian P. Chadwick (Published: 2015)

“This is one text you don’t want to miss” (Epigenie); “up-to-date information” (ChemMedChem)

Corynebacterium glutamicum: From Systems Biology to Biotechnological Applications
Edited by: Andreas Burkovski (Published: 2015)

“Without question a valuable book” (BIOspektrum)

Advanced Vaccine Research Methods for the Decade of Vaccines
Edited by: Fabio Bagnoli and Rino Rappuoli (Published: 2015)

Full details at www.caister.com