Fusarium

Genomics, Molecular and Cellular Biology

Edited by: **Daren W. Brown and Robert H. Proctor**
Bacterial Foodborne Pathogens and Mycology Research, USDA-ARS-NCAUR, USA

Published: August 2013 (book); October 2013 (ebook). **Pages:** viii + 182
Book: ISBN 978-1-908230-25-6 £159, $319. **Ebook:** ISBN 978-1-908230-75-1 £159, $319
Published by: Caister Academic Press www.caister.com

The fungus *Fusarium* is a major plant pathogen that causes disease in nearly every agriculturally important plant. In addition, some strains produce mycotoxins that can cause serious illness in humans and livestock. The enormous economic importance of and health hazards posed by *Fusarium* have fuelled research into its biochemistry, genetics, genomics, proteomics and metabolomics by scientists worldwide. The primary aim of this research is the identification of strategies to reduce crop diseases and the risks posed to human and animal health. The wealth of information derived from this research has allowed *Fusarium* to serve as a model system for eukaryotic biology, permitting tremendous advances in our understanding of the genetic and biochemical processes involved in the fungus-plant interaction, fungal pathogenesis, toxin biosynthesis, genome plasticity and adaptive evolution to ecological niches.

In this book, an international group of researchers critically reviews the most important current research on the genomics and molecular and cellular biology of *Fusarium*. The opening chapter provides a fascinating introduction to the organism. Subsequent chapters deal with: sex and fruiting; genome structural dynamics; molecular genetics and genomic approaches to study pathogenesis in wheat; proteomic analysis of the fungus-host interaction; Repeat-induced point mutation, DNA methylation and heterochromatin in *Fusarium graminearum* (*Gibberella zeae*); nitrogen regulation network and its impact on secondary metabolism and pathogenicity; diversity of polyketide synthases; and plant responses to *Fusarium* metabolites. This volume is essential for everyone working with *Fusarium* and other filamentous fungi. A recommended book for all biology, agriculture and medical libraries.

Order from:

Caister Academic Press, c/o Book Systems Plus http://www.caister.com/order

CURRENT BOOKS OF INTEREST www.caister.com

☞ **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 Rørdam Andersen (Published: 2016)

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

☞ **Omics 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. Romaní, 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)