Viral diseases of crop plants cause significant yield and economic losses and this poses a major threat to global food security. To make matters worse there are no effective antiviral chemicals available and, although naturally resistant host genotypes exist, they are so rare that conventional breeding techniques cannot be used reliably to create resistant plants. The most effective option to combat phytopathogenic viruses is through biotechnological intervention, such as the use of genetic engineering to develop transgenic plants or the topical use of RNA silencing technologies to prevent or modulate the severity of the viral infection. Since the first report on the virus resistance of transgenic tobacco plants in 1986, enormous progress has been made in this field. In addition great strides have been made in our ability to genetically manipulate plants and viruses leading to a plethora of novel applications. This has prompted the need for this timely book which distills the most important research to provide a timely overview.

This authoritative book contains fifteen chapters whose breadth reflects the diversity of this research area. Topics covered range from: understanding the mechanisms of virus resistance in plants, and the management of whitefly-transmitted viruses, to the principles and methods involved in genetic engineering of virus resistant plants. Other chapters cover individual crops such as papaya, cassava, rice, tomato, and banana, for which virus resistance has been accomplished by employing different transgenic technologies.

This volume is essential reading for everyone working in this field, both students and specialists, from academia, research institutes/organizations and industries.
Genes, Genetics and Transgenics for Virus Resistance in Plants
Edited by: Basavaprabhu L. Patil (Published: 2018)

DNA Tumour Viruses: Virology, Pathogenesis and Vaccines
Edited by: Sally Roberts (Published: 2018)

Pathogenic Escherichia coli: Evolution, Omics, Detection and Control
Edited by: Pina M. Fratamico, Yanhong Liu and Christopher H. Sommers (Published: 2018)

Postgraduate Handbook: A Comprehensive Guide for PhD and Master’s Students and their Supervisors
Author: Aceme Nyika (Published: 2018)

Enteroviruses: Omics, Molecular Biology, and Control
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Illustrated Dictionary of Parasitology in the Post-Genomic Era
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Brain-eating Amoebae: Biology and Pathogenesis of Naegleria fowleri
Author: Ruqaiyyah Siddiqui, Ibne Karim M. Ali, Jennifer R. Cope and Naveed Ahmed Khan (Published: 2016)

Foot-and-Mouth Disease Virus: Current Research and Emerging Trends
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