Special Issue

Functional Genomics in Plant Disease Resistance

Message from the Guest Editors

In nature, crops are infected with pests and diseases which causes substantial economic losses. Development and cultivation of resistant varieties are most viable and environmentally friendly options. To breed crop varieties with improved disease resistance requires the identification and functional characterization of genes that control important traits related to stress tolerance. Identification of genes and functions can be achieved by two approaches, namely, forward and reverse genetics. Forward genetics is mainly based on transcriptomics, translatomics, proteomics metabolomics and association studies. Meanwhile, reverse genetics involves gene silencing/knockout or overexpression approaches such as transgenic overexpression, mutations, RNAi, genome editing and virus-induced gene silencing. Functional genomics helps in candidate genes discovery and revealing functions, thus facilitating successful utilization of resistance genes in developing disease-resistant varieties in crops. This Issue is designed to accept papers related to functional genomics in disease resistance focusing on gene discovery, functional characterization and deciphering disease resistance mechanisms.

Guest Editors

Dr. Udaykumar Kage

The Commonwealth Scientific and Industrial Research Organization | CSIRO Agriculture and Food, Queensland Bioscience Precinct, 306 Carmody Road, St Lucia, Brisbane 4067, Australia

Dr. Nancy Soni

Department of Plant Science, McGill University - Macdonald Campus, 21111 Lakeshore, Ste-Anne-de-Bellevue, Sainte-Anne-de-Bellevue, QC H9X 3V9, Canada

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Plants
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
plants@mdpi.com

mdpi.com/journal/plants

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Message from the Editor-in-Chief

Plants is an open access journal which provides an advanced forum for research findings in areas related to plant function, its physiology, biology, taxonomy, stresses, and its interactions with other organisms. It publishes original research articles, reviews, reports, conference proceedings (peer reviewed full articles) and communications. In original research papers, it is important that full experimental details are provided. We also encourage timely reviews and commentaries on topics of interest to the plant research community.

Editor-in-Chief

Prof. Dr. Dilantha Fernando
Department of Plant Science, University of Manitoba, Winnipeg, MB R3T 2N2, Canada

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