Special Issue

Strategies for Tree Improvement under Stress Conditions

Message from the Guest Editors

Perennial woody plants usually are faced with multifactorial adverse conditions during their long lifespan, which impairs their growth and productivity. To cope with these adverse conditions, trees deploy morphological, physiological, and molecular responses to adapt to the environmental constraints. By using high-throughput sequencing and bioinformatic approaches, many hub genes involved in stress responses were identified. In recent years, with the advantages of transgenic technology in woody plants, many candidate genes participating in stress responses were functionally characterized and showed great potential for tree improvement under different stresses. On the other hand, cultivation strategies (including beneficial microorganism investigation, beneficial microorganism inoculation, mixed forest, and so on) also play crucial roles in tree improvement under abiotic and biotic stress. This Special Issue focuses on the strategies for tree improvement under stress conditions; all original research findings and perspectives relative to tree improvement in coping with environmental constraints are welcomed.

Guest Editors

Dr. Jie Luo

College of Horticulture & Forestry Sciences, Huazhong Agricultural University, Wuhan 430070, China

Dr. Wentao Hu

College of Forestry and Landscape Architecture, South China Agricultural University, Guangzhou 510642, China

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

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Editor-in-Chief

Prof. Dr. Giacomo Alessandro Gerosa
Department of Mathematics and Physics, Catholic University of Brescia, I-25121 Brescia, Italy

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