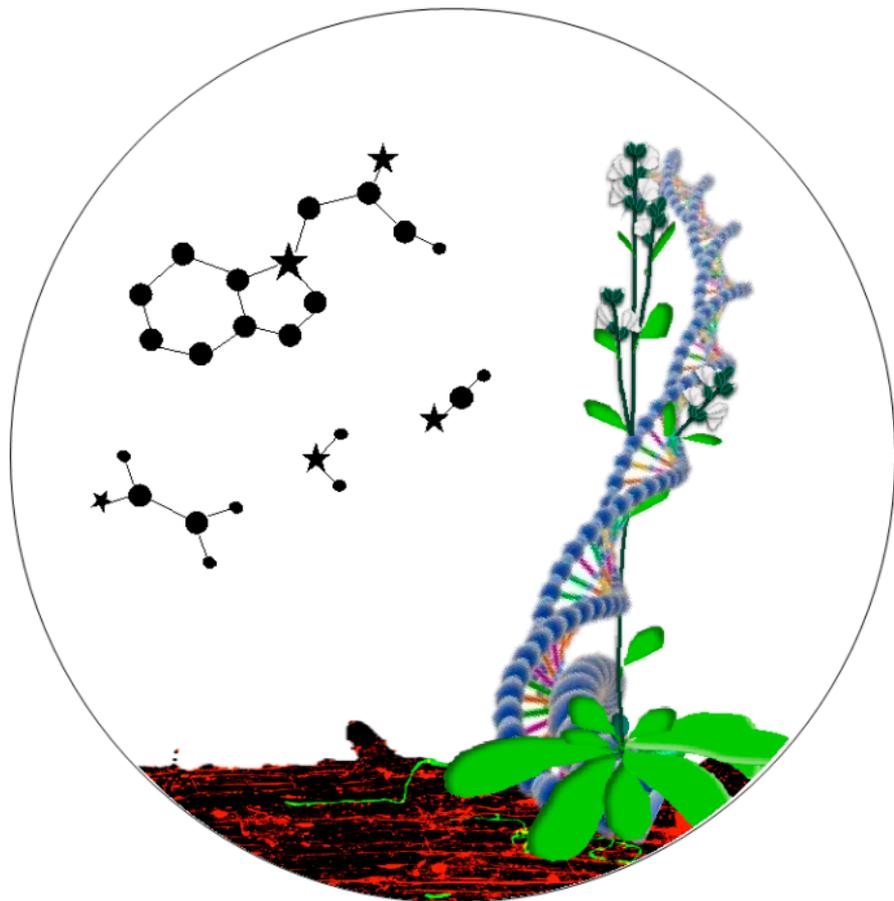


Advances in Plant Molecular Biology



Special Issue

Edited by
Ángeles Aroca and
Irene García

Left Art graph design of plant science challenges in response and adaptation to internal and external stimuli (courtesy of Irene García and Ángeles Aroca).

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Advances in Plant Molecular Biology

Molecular plant biology has evolved with substantial progress during the last years, deciphering the molecular principles that underly plant biology. The regulation of multiple pathways and the regulatory targets for plant development, as well as the adaptation to different stresses have been elucidated during the last years, enlightening the knowledge we have about how plants cope with different environmental stimulus like heat, drought, deficient nutrient conditions or response to pathogens and how symbiosis with other organisms are used as sustainable sources for biostimulants in agriculture.

The accumulated knowledge on plant molecular biology has also been enhanced due to the improvement of molecular techniques and biotechnology of plants for genetic manipulation. All these advances have increased the interest of the scientific community to face significant challenges in the 21st century, in particular the need to increase global food supply under the increasing threats from climate change.

This special issue, published in association with the XVI Plant Molecular Biology Meeting (RBMP), will include the advances in plant molecular biology during the last decade, to sum up the challenges that the plant researchers try to solve, including new findings in plant science about

all aspects of plant biology, such as plant biochemistry, cell biology, genetics, biotechnology, evolution, omics and more.

Invited Reviews

Arvanitidou C, Ramos-González M, García-González M, Romero-Campero FJ Systems and Synthetic Biology Approaches in Microalgae

Wong MM, Agbemaflé W, Bassham DC Regulation of autophagy in plants

Rufán JS, Beuzón CR, Ruiz-Albert J Suppression of NLR-mediated plant immune detection by bacterial pathogens

Álvarez C, Iniesta-Pallarés M, Gordillo-Cantón FM, Molina-Heredia FP, Mariscal V Symbiosis between cyanobacteria and plants: from molecular studies to agronomic application

Lu Y, Carrillo L, Medina J Systemic N signaling: new players in the transcriptional regulation of root responses

Coletto I, González-Hernández AI, Marín-Peña AJ, Marino D Nutrients interaction during ammonium nutrition: focus on cations

Jiménez A, Martí MC, De Brasi S, Sevilla F Plant stress-related processes as redox regulated by thioredoxin and glutaredoxin

Sanchez-Corrionero A, Albertos P, Sanchez-Vicente I, Arteaga-Ramos N, Manrique-Gil I, Gomez-Jimenez S, Torres-Quezada I, Lorenzo O Fine-tuned nitric oxide control of plant root development and regeneration

Romero LC, Díaz-Rueda P, Morales de los Ríos L, García I Old poisons, new signaling molecules: the case of HCN

López-Márquez D, Del-Espino A, Ruiz-Albert J, Bejarano ER, Brodersen P, Beuzón C Small RNA and the regulation of NLR-mediated plant immunity

Mulet JM, Andrés-Colás N, Porcel R, Sifres A, Benito P, Yenush L Modulation of potassium transport to increase abiotic stress tolerance in plants

Romero-Puertas MC, Shabala S, Sandalio LM New advances in ROS and nitric oxide-dependent regulation of ion and metal homeostasis in plants

Wong C, Blázquez MA, Alabadí D Spatial regulation of hormone action

Pulido P Plant protein quality control

García-Calderón M, Marquez Cabeza A, Aroca A, Betti M Photorespiration: new roles for an ancient metabolic pathway

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Invitation to submit

We welcome contributions to this special issue. If you would like to submit an article, please [email](#) a title and brief outline for the consideration of the guest editors. All papers are subject to the usual editorial standards and must fit the scope of the journal. The deadline for submissions is 31 March, 2023.

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Section Molecular Plant Sciences

Editor-in-Chief



Prof. Dr. Setsuko Komatsu

Fukui University of Technology, Fukui, Japan

This section of the International Journal of Molecular Sciences (IJMS) aims to rapidly publish contributions on all aspects of plant molecular biology, at gene, protein and metabolite levels, and to help plant scientists exchange knowledge and increase visibility of their studies toward specialists in other molecular aspects of life sciences. Topics include, but are not limited to:

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