

Special Issue

Electrical and Chemical Signaling in Plant Defence

Message from the Guest Editors

Plants are exposed to countless different organisms and interact in a rather friendly or harmful way with them. In combination with the sessile life of plants a perception ability for adequate answers is required otherwise plant's fitness is at risk. Therefore, the plant's interaction with its living environment must result in an induction of local and systemic signals which inform other plant parts or even neighbouring plants. This means signalling networks are of high significance for plant's growth and survival. Signalling networks are composed of electrophysiological and chemical signals. A wealth set of data is known for chemical signals e.g. phytohormones, RNAs, peptides, ROS, VOCs, but less is known about the integrative role of electrophysiological signals e.g. action potentials (APs), variation potentials (VPs), system potentials (SPs) or a mixture of those. In particular, the potential cooperation of electrophysiological and chemical signals is unknown but of high interest. It seems very likely that the complex heterogeneous interaction of plants with their environment demands a wide plasticity of signals and their combinations.

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