Preface

It is now well established that jasmonates, originally identified as the major component of jasmine scent, play a universal role in the plant kingdom and are involved in the regulation of diverse aspects of plant biology, including growth, development, metabolism, and interaction with the environment.

The research field of jasmonate signaling has moved forward rapidly over the last years, and the jasmonate research community is growing considerably. The models of the molecular pathways implicated in jasmonate perception and signaling gain in complexity almost weekly, and the size of the crosstalk network with other hormones or signaling pathways increases as well. As a consequence, it became evident that jasmonates affect far more cellular and physiological processes than originally anticipated.

Hence, in our opinion, an overview of the experimental protocols is very timely, not only of those already used in this field but also more general ones that certainly will become useful in the near future. Omics tools provide unprecedented ways to map and explore jasmonate signaling in plants. However, despite the power of the emerging omics platforms, a reductionist approach is often still required to achieve an unambiguous understanding of the role or function of a particular gene or protein in a signaling cascade. The aim of this book is to unite these two streams and to cover both omics and reductionist tools and protocols. Thereby, we attempted to provide a comprehensive picture of the research possibilities on jasmonate signaling. We collected contributions from the top laboratories studying jasmonate-related processes as well as from experts investigating other plant (hormonal) signaling cascades. In general, we tried to gather essential techniques and methods that can be applied with standard equipment in plant (molecular) biology facilities. As such, the chapters in this book embrace physiological, environmental, molecular, omics, and bioinformatics approaches that allow dissecting jasmonate actions in the model species *Arabidopsis thaliana* or in other plants.

Collectively, we hope that these protocols will empower interested researchers to dissect all steps of jasmonate signaling and the processes they modulate. We wish the reader good luck in this undoubtedly spectacular endeavor!

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