

Preface

Since their discovery over 100 years ago, plasmodesmata have been the focus of intense investigation. Plasmodesmata are unique to plants and form an intercellular continuum for the transport of solutes, signals and ribonucleoprotein complexes. It is now clear that plasmodesmata formation and regulation are central to a diverse range of plant functions that include developmental programming, host-pathogen interactions and systemic RNA signaling.

This book provides a state-of-the-art overview of the diverse forms and functions of plasmodesmata. It covers the structure and evolution of plasmodesmata, their role in plant development and solute transport, and their central function in systemic signaling via the phloem. It includes critical evaluations of current methods used to study intercellular transport via plasmodesmata. The material is suitable both for researchers in the field of plant cell biology and for postgraduates and advanced graduates in the plant sciences generally. It is comprehensively referenced throughout.

I am grateful to my colleagues who have contributed to this book for providing thought-provoking treatments of their subject areas. It is some years since a book was devoted to the subject of plasmodesmata, and I hope that this volume of the *Annual Plant Reviews* series will serve as an up-to-date source of reference on this fascinating research area.

Finally, I am indebted to Morven Pearson and Philip Smith for their help and patience with the editing of this volume.

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