

Contents

1	Morphing Structures in the Venus Flytrap	1
	Vladislav S. Markin and Alexander G. Volkov	
2	The Effect of Electrical Signals on Photosynthesis and Respiration	33
	Andrej Pavlovič	
3	Mathematical Modeling, Dynamics Analysis and Control of Carnivorous Plants	63
	Ruoting Yang, Scott C. Lenaghan, Yongfeng Li, Stephen Oi and Mingjun Zhang	
4	The Telegraph Plant: <i>Codariocalyx motorius</i> (Formerly Also <i>Desmodium gyrans</i>)	85
	Anders Johnsson, Vijay K. Sharma and Wolfgang Engelmann	
5	Regulatory Mechanism of Plant Nyctinastic Movement: An Ion Channel-Related Plant Behavior	125
	Yasuhiro Ishimaru, Shin Hamamoto, Nobuyuki Uozumi and Minoru Ueda	
6	Signal Transduction in Plant–Insect Interactions: From Membrane Potential Variations to Metabolomics	143
	Simon Atsbaha Zebelo and Massimo E. Maffei	
7	Phytosensors and Phytoactuators	173
	Alexander G. Volkov and Vladislav S. Markin	

8	Generation, Transmission, and Physiological Effects of Electrical Signals in Plants	207
	Jörg Fromm and Silke Lautner	
9	The Role of Plasmodesmata in the Electrotonic Transmission of Action Potentials	233
	Roger M. Spanswick	
10	Moon and Cosmos: Plant Growth and Plant Bioelectricity	249
	Peter W. Barlow	
11	Biosystems Analysis of Plant Development Concerning Photoperiodic Flower Induction by Hydro-Electrochemical Signal Transduction	281
	Edgar Wagner, Lars Lehner, Justyna Veit, Johannes Normann and Jolana T. P. Albrechtová	
12	Actin, Myosin VIII and ABP1 as Central Organizers of Auxin-Secreting Synapses	303
	František Baluška	
13	Ion Currents Associated with Membrane Receptors	323
	J. Theo M. Elzenga	
14	Characterisation of Root Plasma Membrane Ca²⁺-Permeable Cation Channels: Techniques and Basic Concepts	339
	Vadim Demidchik	
	Index	371