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Nota di contenuto	Preface -- 1. Introduction to cellular calcium -- 2. Cellular calcium homeostasis -- 3. Significance of calcium signatures -- 4. Cellular calcium transport machinery -- 5. Calcium conductance across plasma membrane -- 6. Identification of other influx channels based on cellular localization- 7. Endomembrane and vascular ion channel -- 8. Other non-selective calcium conductances Ca <sup>2+</sup> -- 9. Calcium extrusion systems and efflux transporters -- 10. Cellular Ca <sup>2+</sup> hubs -- 11. Recent advances in biotechnological tools and approaches -- 12. Conclusions and future perspectives -- References -- Abbreviations -- Index -- .
Sommario/riassunto	This book focuses on the significance and implications of Calcium (Ca <sup>2+</sup> ) transport machinery in the plant cell in generating alternating Ca <sup>2+</sup> levels and impacting the cell's physiological, biochemical and developmental processes. In the following sections, the concept of Ca <sup>2+</sup> homeostasis, Ca <sup>2+</sup> signature, various Ca <sup>2+</sup> transport protein families and conductance systems would be discussed in detail- elucidation of their functional characterization, structure, mechanism, sub-cellular localization and specific physiological roles in ensuring Ca <sup>2+</sup> homeostasis. Also, the aspect of Ca <sup>2+</sup> as a "signaling hub" – transducing distinct plant responses to diverse environmental stimuli,

Ca<sup>2+</sup> binding proteins, and the tools used in studying these proteins are explained in brief to paint a holistic picture of Ca<sup>2+</sup> transport in plant systems. This has resulted in an elaborative literature account to serve as a staple by providing recent insights and advance knowledge surrounding genetic and molecular dissection of Ca<sup>2+</sup> homeostasis maintenance mechanisms and extant Ca<sup>2+</sup> transport systems in plants.

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