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Nota di contenuto	Intro -- Preface -- Acknowledgments -- Introduction -- Involvement of Same Elements for Memorizing and Processing of Information -- Variation of Electrical Properties According to the Hebbian (or Alternative) Rule (Electronic Synapse) -- Possibility of Working in Auto-Oscillation Mode -- Formation of Stable Chains of the Signal Transfer -- Materials Used for Electronic Compounds Must Allow Self-Organisation into 3D Systems Mimicking Intrinsic Brain Functions -- Contents -- About the Author -- Chapter 1: Memristive Devices and Circuits -- 1.1 Determination of Memristor -- 1.2 Mnemotrix -- 1.3 First Mention About the Experimental Realization of Memristor -- 1.4 Inorganic Memristive Devices -- 1.5 Memristive Devices with the Organic Materials -- Chapter 2: Organic Memristive Device -- 2.1 Basic Materials -- 2.2 Structure and Working Principle of the Device -- 2.3 Electrical Characteristics of the Device -- 2.4 Device Working Mechanism -- 2.4.1 Spectroscopy -- 2.4.2 X-Ray Fluorescence -- 2.5 Electrical Characteristics in a Pulse Mode -- 2.6 Optimization of Properties and Stability of the Device -- 2.6.1 Stability of Organic Memristive Device Properties -- 2.6.2 Optimization of the Device Architecture -- 2.6.3 Role of the Electrolyte -- 2.7 Organic Memristive Devices with Channels, Formed by Layer-by-Layer Technique -- Chapter 3: Oscillators Based on Organic Memristive Devices -- Chapter 4: Models -- 4.1 Phenomenological Model -- 4.2 Simplified Model of the Organic Memristive Device Function -- 4.3 Electrochemical Model -- 4.4 Optical Monitoring of the Resistive States -- Chapter 5: Logic