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| Sommario/riassunto | This open access book offers a timely and comprehensive review of the field of neurotronics. Gathering cutting-edge contributions from neuroscientists, biologists, psychologists, as well as physicists, microelectronics engineers and information scientists, it gives extensive information on fundamental information pathways in selected nervous systems. It also highlights their relevance as building blocks for novel computing architectures, such as bio-inspired electronic devices, neuromorphic architectures, memristive devices, adaptive sensors and emergent, pulsed-coupled oscillatory networks. All in all, this book offers a unique bridge between fundamental research in |

neuroscience, neural information processing, nonlinear dynamics, and self-organization, and advanced practical applications concerning the fabrication of hardware-oriented computing.