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Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Intro; Preface; Organization; Contents; 1 From Biological to Numerical Experiments in Systemic Neuroscience: A Simulation Platform; 2 Physically-Based Simulation and Web Visualization of C. elegans Behavioural Experiments; 3 Si elegans: Modeling the C. elegans Nematode Nervous System Using High Performance FPGAS; 4 Probabilistic Tractography Using Particle Filtering and Clustered Directional Data; 5 Post-stroke Robotic Upper-Limb Telerehabilitation Using Serious Games to Increase Patient Motivation: First Results from ArmAssist System Clinical Trial 6 Comparison of Electro-Optical Strategies for Mimicking C. elegans Network Interconnectivity in Hardware 7 Supervised EEG Ocular Artefact

Correction Through Eye-Tracking; 8 An fMRI-Compatible System for 3DOF Motion Tracking of Objects in Haptic Motor Control Studies; 9 Comparing Methods for Decoding Movement Trajectory from ECoG in Chronic Stroke Patients; 10 Detection of Gait Initiation Through a ERD-Based Brain-Computer Interface; Author Index; Congress Co-chairs; Area Co-chairs; Organizing Committee; Program Committee; Auxiliary Reviewers; Invited Speakers; Abstract; 1 Introduction
2 Problem Position3 System Description; 4 Brainy-Bot Generic Functionality; 5 Neuroscience Application; 6 Case Study: Pavlovian Conditioning; 7 Discussion; Acknowledgments; References; Abstract; 1 Introduction; 2 Related Work; 3 Physical Model; 4 Visualization; 5 Web Interaction; 6 Conclusions and Future Work; Acknowledgments; References; Abstract; 1 Introduction; 2 Wireless Networks; 3 FPGA Neural Network Background; 4 Small Scale Si elegans HNN; 5 Results; 6 Conclusions and Future Work; Acknowledgments; References; Abstract; 1 Introduction; 2 Methods; 3 Experimental Results
4 Implementation and Reproducible Research5 Conclusions; References; Abstract; 1 Introduction; 2 Games; 3 Testing; 4 Results; 5 Conclusions; Acknowledgments; References; Abstract; 1 Introduction; 2 Concepts for a Biomimetic Connectome Emulation; 3 Comparison of Different Synaptic Board and Projection Scheme Installation Scenarios; 4 DMD Projector Placement---Comparison of Different Installation Scenarios; 5 Conclusions; Acknowledgments; References; Abstract; 1 Introduction; 2 Methods; 3 Independent Components Analysis; 4 Results; 5 Discussion; Acknowledgments; References; Abstract
1 Introduction2 Materials and Methods; 3 Results; 4 Conclusions; Acknowledgments; References; Abstract; 1 Introduction; 2 Methods; 3 Results; 4 Discussion; Acknowledgments; References; Abstract; 1 Introduction; 2 Materials and Methods; 3 Results and Discussion; 4 Conclusions and Future Works; Acknowledgments; References; 1.1 The Si elegans Platform; 5.1 Defining the Experiment; 5.2 Observing and Analysing the Results; 3.1 Si elegans Overview; 4.1 Hardware Layer; 4.2 Software Layer; 2.1 Fiber Tracking Model; 2.2 Clustered-vMFs Model; 3.1 Fiber Bundle Simulation
3.2 Human Brain Data Experiments

Sommario/riassunto

This book is a timely report on current neurotechnology research. It presents a snapshot of the state of the art in the field, discusses current challenges and identifies new directions. The book includes a selection of extended and revised contributions presented at the 2nd International Congress on Neurotechnology, Electronics and Informatics (NEUROTECHNIX 2014), held October 25-26 in Rome, Italy. The chapters are varied: some report on novel theoretical methods for studying neuronal connectivity or neural system behaviour; others report on advanced technologies developed for similar purposes; while further contributions concern new engineering methods and technological tools supporting medical diagnosis and neurorehabilitation. All in all, this book provides graduate students, researchers and practitioners dealing with different aspects of neurotechnologies with a unified view of the field, thus fostering new ideas and research collaborations among groups from different disciplines.
