Contents

From Biological to Numerical Experiments in Systemic Neuroscience: A Simulation Platform ........................................ 1
Nicolas Denoyelle, Maxime Carrere, Florian Pouget, Thierry Viéville and Frédéric Alexandre

Physically-Based Simulation and Web Visualization of C. elegans Behavioural Experiments. ...................................... 19
Andoni Mujika, Gorka Epelde, Peter Leškovský and David Oyarzun

Si elegans: Modeling the C. elegans Nematode Nervous System Using High Performance FPGAS .......................... 31
Pedro Machado, John Wade and T.M. McGinnity

Probabilistic Tractography Using Particle Filtering and Clustered Directional Data ........................................... 47
Adelino R. Ferreira da Silva

Post-stroke Robotic Upper-Limb Telerehabilitation Using Serious Games to Increase Patient Motivation: First Results from ArmAssist System Clinical Trial ................................. 63
Cristina Rodríguez-de-Pablo, Maša Popović, Andrej Savić, Joel C. Perry, Aitor Bellosio, Tijana Dimkić Tomić and Thierry Keller

Comparison of Electro-Optical Strategies for Mimicking C. elegans Network Interconnectivity in Hardware ............... 79
Lorenzo Ferrara, Alexey Petrushin, Carlo Liberale, Dara Brannick, Brian Connolly, Pat Mitchell and Axel Blau

Supervised EEG Ocular Artefact Correction Through Eye-Tracking ............................................................... 99
P. Renté Lourenço, W.W. Abbott and A. Aldo Faisal
An fMRI-Compatible System for 3DOF Motion Tracking of Objects in Haptic Motor Control Studies ........................................... 115
M. Rodríguez, A. Sylaidi and A.A. Faisal

Comparing Methods for Decoding Movement Trajectory from ECoG in Chronic Stroke Patients ........................ 125
Martin Spüler, Florian Grimm, Alireza Gharabaghi, Martin Bogdan and Wolfgang Rosenstiel

Detection of Gait Initiation Through a ERD-Based Brain-Computer Interface ........................................ 141

Author Index ................................................................. 151
Advances in Neurotechnology, Electronics and Informatics
Revised Selected Papers from the 2nd International Congress on Neurotechnology, Electronics and Informatics (NEUROTECHNIX 2014), October 25-26, Rome, Italy
Londral, A.R.; Encarnação, P. (Eds.)
2016, XII, 152 p. 70 illus., 25 illus. in color., Hardcover
ISBN: 978-3-319-26240-6