

CONTENTS

KEYNOTES

- Implicit sensorimotor controls for interaction with dynamic environments 5
Hiroaki Gomi
- New neural architectures and new adaptive evaluation of chaotic time series 7
Jiri Bila
- Tactile information and its using by measurement and analysis of human functions 9
Jaromir Volf

HUMAN MOTION ANALYSIS

- Muscle activation pattern in step-tracking wrist movement predicted by “final-position control hypothesis” with internal models 11
Kambara, H., Shin, D., Koike, Y
- Regulation mechanisms of arm impedance during reaching movements under complex force field 13
Naoki Tomi, Manabu Gouko, Koji Ito
- Measurement of step length in pedestrian counterflow 15
Yamasaki, H., Sekiya, N.
- Choosing a control strategy in unstable bimanual task 17
Devjani J. Saha, Pietro Morasso
- Sparse linear regression for reconstructing EMG from EEG current sources estimated using variational bayes 19
Yoshimura, Natsue, Omata, Kei, DaSalla, Charles S., Hanakawa, Takashi, Sato, Masa-aki, Koike, Yasuharu
- Lung motion prediction by static neural networks 21
Ricardo Rodriguez, Kei Ichiji, Ivo Bukovsky, Jiri Bila, Noriasu Hojna

MOTOR LEARNING

- Case study of EEG (electroencephalogram) – FES (functional electrical stimulation) System 23
Mitsuru Takahashi, Kotaro Takeda, Yohei Otaka, Rieko Osu, Takashi Hanakawa, Manabu Gouko, Koji Ito
- Motor learning by attentive observation 25
Toshiyuki Kondo, Kazuto Nakamura, Takayuki Nozawa
- A power assist device based on joint equilibrium point estimation from electromyography 27
Kawase Toshihiro, Kambara Hiroyuki, Koike Yasuharu

POSTER PRESENTATIONS

- Evaluation of functional roles of phase resetting in generation of adaptive human bipedal locomotion based on a neuromusculoskeletal model 29
Shinya Aoi, Naomichi Ogihara, Tetsuro Funato, Yasuhiro Sugimoto, Kazuo Tsuchiya
- A robust patterns embeded in the kinematics of human locomotion under various environments 31
Funato Tetsuro, Aoi Shinya, Tsuchiya Kazuo
- Motion measurement of 2-wheeled skateboard and sinusoidal approximation of input force trajectory 33
Satoshi Ito, Shouta Takeuchi, Minoru Sasaki
- Identification of feedforward-like and feedback-like controllers for wrist movement in human 35
Jongho Lee, Yasuhiro Kagamihara and Shinji Kakei

HUMAN PERCEPTION AND COGNITION

- A fundamental study of a state representation using f-divergence 37
Manabu Gouko, Koji Ito
- Study of optimization of cooperative adaptation between two persons by mutual tracking experiments 39
Yoshikatsu Hayashi, Ken Sugawara, Yasuji Sawada
- Unexpected versus ill separable situations 41
Jiri Bila, Jakub Jura
- Modeling handwriting: from critical points to shapes 43
Zenzeri Jacopo, Mohan Vishwanathan, Morasso Pietro

INTERACTION OF PERCEPTION AND MOVEMENT

- Intermanual transfer of handwriting skills: role of visual and haptic assistance 45
Angelo Basteris, Lino Bracco, Vittorio Sanguineti
- The effect of voluntary movement in audio-haptic temporal order judgment task 47
M. Yokoyama, S. Yoshida, H. Ora, K. Nozawa, T. Ogata, Y. Miyake
- Human's – pilot's features during aircraft flight control from automatic regulation viewpoint 49
Jalovecky Rudolf, Janu Premysl
- Analysis of synergy for dampening hand vibration during walking 51
Shunta Togo, Takahiro Kagawa and Yoji Uno
- Postural responses of backward balance loss during walking on a treadmill 53
Takahiro Kagawa, Yu Ohta, Yoji Uno
- Research of the fall risks decreasing in the senior's gait in Slovakia 55
Samer Abdo Saleh Al-Rabeei, Dušan Šimšík, Alena Galajdová, Marianna Andrášová
- Interaction modeling of biomechanical object and its environment 57
Kanstantsin Miatliuk

MEASUREMENT OF QUANTITIES RELATED TO HUMAN FUNCTIONS

Kinanthropometry: Measuring and accuracy of measurement achieved through e-learning	59
<i>Fragoso, Isabel, Fernandes, António A., Massuça, Luís, Fernandes, Ana</i>	
An analysis of kinematic gait data variability	61
<i>Dolna Zlatica, Simsik Dusan, Galajdova Alena, Andrejiova Miriam, Szerdiova Lenka</i>	
Hand expander as the tool for a sportsman's physiological condition estimation	63
<i>Oleg Dmitriyev, Vladimir Fetisov, Dmitriy Ilyuschenkov</i>	
Evaluation of the influence of the magnetic field on a living tissue	65
<i>Papezova Stanislava, Papez Vaclav</i>	
Nonlinear modelling improvement of stochastic processes analysis in stabilometry	67
<i>Miroslav Kopecky, Josef Kokes</i>	
Human body stability analyses of subjects having different bipodal postures	69
<i>Mihaela Ioana Baritz</i>	
AUTHORS' INDEX	71