

TECHNOLOGY AND HEALTH CARE

Volume 25, Supplement 1, 2017

Papers from the 5th International Conference on Biomedical Engineering and Biotechnology (ICBEB2016), 1–4 August 2016, Hangzhou, China
Guest Editors: Edward J. Ciaccio and Feng Liu

CONTENTS

Foreword	S1
<i>F. Xiao, Y. Gao, Y. Wang, Y. Zhu and J. Zhao</i> Design of a wearable cable-driven upper limb exoskeleton based on epicyclic gear trains structure	S3
<i>B. Li, J. Bi, W. Li, S. Huang, S. Zhang, J. Zhao, Q. Meng and J. Fei</i> Effects of pulsed electromagnetic fields on histomorphometry and osteocalcin in disuse osteoporosis rats	S13
<i>X. Shen, S. Ji, Z. Xie and Y. Deng</i> Effect of different expansion strategies on coronary stent deployment in a tapered artery	S21
<i>S.D. Na, G. Lee, Q. Wei, K.W. Seong, J.H. Cho and M.N. Kim</i> Mastication noise reduction method for fully implantable hearing aid using piezo-electric sensor	S29
<i>T. Yang, L. Ding, H. Zhang, L. Xue, W. Zhang, L. Chen, H. Xiao and H. Qiao</i> Mechanical and physiological effect of partial pressure suit: Experiment and numerical study	S35
<i>L. Wang, Z. Zhang, Y. Yu and G. Chen</i> Study on the control of variable resistance for isokinetic muscle training system	S45
<i>L. Sun, X. Wu, Y. Li, Z. Lin, D. Xu, X. Lin and Y. Gao</i> Comparative analysis of the stress distribution in five anatomical types of maxillary central incisor	S53
<i>H.-H. Kim, Y.H. Choi, S.B. Lee, Y. Baba, K.-W. Kim and S.-H. Suh</i> Numerical analysis of urine flow through the side holes of a double J stent in a ureteral stenosis	S63
<i>S.H. Shin, S.R. Kang, T.-K. Kwon and C. Yu</i> A study on trunk muscle activation patterns according to tilt angle during whole body tilts	S73
<i>J.H. Kim, J.H. Lee and J.-H. Cho</i> Implementation of integrated circuit and design of SAR ADC for fully implantable hearing aids	S83
<i>H.Y. Kim, E.J. Kim and J.H. You</i> Adaptive locomotor network activation during randomized walking speeds using functional near-infrared spectroscopy	S93

<i>H.S. Yoon and J.H. You</i> Reflex-mediated dynamic neuromuscular stabilization in stroke patients: EMG processing and ultrasound imaging	S99
<i>X. Liao, J. Lang, N. Li, P. Wang, J. Li, J. Yang and Y. Chen</i> Dosimetric comparisons of IMRT planning using MCO and DMPO techniques	S107
<i>S.R. Kang, J.-Y. Min, C. Yu and T.-K. Kwon</i> Effect of whole body vibration on lactate level recovery and heart rate recovery in rest after intense exercise	S115
<i>A. Qiao, X. Song, K. Peng, G. Du, G. Li and Z. Chen</i> Validity of CAVI measurements for diagnosing hypertension in middle-aged and elderly patients and correlations of these measurements with relevant factors	S125
<i>Y. Li, Y. Dai, L. Deng, N. Yua and Y. Guo</i> Computer-aided detection for the automated evaluation of pulmonary embolism	S135
<i>Z. Yu, H. Zhang, L. Fu and X. Lu</i> Objective research on tongue manifestation of patients with eczema	S143
<i>C. Liu, H. Cai, J. Jia, T. Cao, C. Xu and C. Liu</i> Research on highly sensitive optomagnetic sensor for rapid detection of inflammation	S151
<i>S. Yang, Y. Qiao, L. Wang and P. Hao</i> Magnetic stimulation at acupoints relieves mental fatigue: An Event Related Potential (P300) study	S157
<i>X. Ding, W. Liu, J. Zhang and L. Zhao</i> A method and system to simulate human electrophysiological activity	S167
<i>F. Xie, H. Zhou, W. Zhao and L. Huang</i> A comparative study on the mechanical behavior of intervertebral disc using hyperelastic finite element model	S177
<i>Y. Xin, Y. Zhao, Y. Mu, Q. Li and C. Shi</i> Paroxysmal atrial fibrillation recognition based on multi-scale Rényi entropy of ECG	S189
<i>Q. Li, Y. Zhang, H. Kang, Y. Xin and C. Shi</i> Mining association rules between stroke risk factors based on the Apriori algorithm	S197
<i>H. Cai, Z. Hao, L. Xiao, C. Wan and L. Tong</i> The collagen microstructural changes of rat menisci and tibiofemoral cartilages under the influence of mechanical loading: An <i>in vitro</i> wear test of whole joints	S207
<i>J. Xiao, Y. Zhang, S. Zhao and H. Wang</i> Measuring the 3D motion space of the human ankle	S219
<i>J. Zhang, Y. Zhong, J. Smith and C. Gu</i> ChainMail based neural dynamics modeling of soft tissue deformation for surgical simulation	S231

<i>H. Yu, X. Fan and A. Song</i> The curvature calculation mechanism based on simple cell model	S241
<i>J. Yang, M. Deng, P. Cao, W. Tan, Q. Sun, L. Lu and D. Zhao</i> The improved differential demon algorithm	S251
<i>H. Yang, T. Cao, L. Gao, L. Wang, C. Zhu, Y. Xu, Y. Jing, H. Zhu, N. Lv and L. Yu</i> The incidence and distribution characteristics of MLL rearrangements in Chinese acute myeloid leukemia patients by multiplex nested RT-PCR	S259
<i>G. Zhang, G. Liu, S. Ma, T. Wang, J. Zhao and Y. Zhu</i> Biomechanical design of escalating lower limb exoskeleton with novel linkage joints	S267
<i>W. Wang, L. Zhang, J. Li, X. Yuan, Y. Shi, Q. Jiang and L. He</i> The force control and path planning of electromagnetic induction-based massage robot	S275
<i>Z. Zhang, Y. Jiang, Y. Sun and H. Zhang</i> Potential for false positive results from multi-voxel pattern analysis on functional imaging data	S287
<i>H. Wang, Y. Wen and D. Zhao</i> Differential barometric-based positioning technique for indoor elevation measurement in IoT medical applications	S295
<i>P. Ran, Y. Luo, Z. Li, W. Wang and Y. Pang</i> Design of an ultrasonic physiotherapy system with pulse wave feedback control	S305
<i>L. Zhu, X. Yang, Y. Wu, M. Wang and Y. Luo</i> Optimization of a passively suspended injection impeller for Left ventricular assist device	S317
<i>H. Wang, J. Feng and H. Wang</i> Grouped fuzzy SVM with EM-based partition of sample space for clustered microcalcification detection	S325
<i>J. Zhang, Y. Zhong, J. Smith and C. Gu</i> Cellular neural network modelling of soft tissue dynamics for surgical simulation	S337
<i>H. Zhu, C.-H. Pak, C. Song, S. Dou, H. Zhao, P. Cao and X. Ye</i> A novel lung cancer detection algorithm for CADs based on SSP and Level Set	S345
<i>Z. Shen, C. Wu, B. Ding, Z. Yuan, N. Zhang, M. Zhao and Y. Zhao</i> GPU-based interactive near-regular texture synthesis for digital human models	S357
<i>H.-U. Seo, Q. Wei, S.-G. Kwon and K.-I. Sohng</i> Medical image watermarking using bit threshold map based on just noticeable distortion in discrete cosine transform	S367
<i>T. Zhan, P. Feng, X. Hong, Z. Lu, L. Xiao and Y. Zhang</i> An automatic glioma grading method based on multi-feature extraction and fusion	S377

<i>F. Gong, Z. Wei, Y. Cong, H. Chi, B. Yin and M. Sun</i> Analysis of SAR distribution in human head of antenna used in wireless power transform based on magnetic resonance	S387
<i>Q. Liu, X. Zhao, Z. Hou and H. Liu</i> Epileptic seizure detection based on the kernel extreme learning machine	S399
<i>S. Yue, Y. Wang, J. Wang and J. Chen</i> Relationships between lung cancer incidences and air pollutants	S411
<i>X. Huang, S. Yue, C. Wang and H. Wang</i> Optimal three-dimensional reconstruction for lung cancer tissues	S423
<i>B. Zhang, H. Hu, A. Ye and P. Zhang</i> A surface acoustic wave ICP sensor with good temperature stability	S435
<i>Y. Li, L. Zhang, T. Zhang and B. Li</i> A study of the application of Brain Atlas with and without +Gz acceleration conditions	S443
<i>T. Wang, L. Zhu, C. Hu, S. Gong, H. Jiang, H. Chen and J. Li</i> The diagnostic value of susceptibility-weighted imaging for ischemic penumbra in patients with acute ischemic stroke	S449
<i>X. Pan, B. Qi, H. Yu, H. Wei and Y. Kang</i> A new idea for visualization of lesions distribution in mammogram based on CPD registration method	S459