TECHNOLOGY AND HEALTH CARE Volume 26, Supplement 1, 2018

Papers from the 6th International Conference on Biomedical Engineering and Biotechnology (iCBEB2017), 17–20 October 2017, Guangzhou, China Guest Editors: Carlos Gómez, Severin P. Schwarzacher and Huiyu Zhou

CONTENTS

C. Gómez, S.P. Schwarzacher and H. Zhou Foreword	S1
H. Wang, Y. Wen and D. Zhao Location verification algorithm of wearable sensors for wireless body area networks	S3
H. Lei, Z. Huang, T. Han, Q. Luo, Y. Cai, G. Liu and B. Lei Joint regression and classification via relational regularization for Parkinson's disease diagnosis	S19
<i>M. Wang, K. Zhang and N. Yang</i> Development and application of computer assisted optimal method for treat- ment of femoral neck fracture	S31
K. Kim, S.H. Kim, S.H. Kim and C.H. Yu Hydrogen-absorbing alloy-based metal-hydride actuation for application in rehabilitative systems	S43
H. Shen, H. Chai, M. Li, Z. Zhou, Y. Liang, Z. Yang, H. Huang, X. Liu and B. Zhang Robust sparse accelerated failure time model for survival analysis	S55
<i>C. Feng, X. Wanyan, K. Yang, D. Zhuang and X. Wu</i> A comprehensive prediction and evaluation method of pilot workload	S65
F. Yang, H. Gu, M. Li, J. Cai, Q. Zhou and WK. Lam The impact on human visual performance when viewing 2-D and 3-D movies	S79
X. Tan, Z. Ji and Y. Zhang Non-invasive continuous blood pressure measurement based on mean im- pact value method, BP neural network, and genetic algorithm	S87
Y. Zhang, X. Liu, K. Zhao, L. Li and Y. Ding Study of altered functional connectivity in individuals at risk for Alzheimer's Disease	S103
X. Jiang, S. Wei, D. Zheng, P. Huang and C. Liu Changes in the bilateral pulse transit time difference with a moving arm	S113
L. Hua, H. Xia, W. Xu, W. Zheng and P. Zhou Prediction of microRNA and gene target from an integrated network in chro- nic obstructive pulmonary disease based on canonical correlation analysis	S121
H. Wang, W. Liu, X. Fang, H. Wang, W. Ma, H. Dong, H. Yin, Y. Li and H. Sha Effect of 405 nm low intensity irradiation on the absorption spectrum of <i>in-</i> <i>vitro</i> hyperlipidemia blood	S135

Contents

H.S. Yoon, Y.J. Cha, M.K. Sohn and J.H. You Effect of rehabilitation on the somatosensory evoked potentials and gait performance of hem-iparetic stroke patients	S145
H. Li, C. Chen, S. Zhao and Z. Lyu Color disease leaf image segmentation using NAMS superpixel algorithm	S151
<i>J. Sun, W. Zhuang, G. Li, G. Jin, J. Xu, K. Ma, F. Wang and H. Feng</i> An experimental study of pulse wave measurements with magnetic induc- tion phase shift method	S157
<i>J. Lin, L. Xiao and T. Wu</i> Face recognition for video surveillance with aligned facial landmarks learn- ing	S169
X. Wang, H. Gao, S. Wu, Y. Bai and Z. Zhou RF ablation thermal simulation model: Parameter sensitivity analysis	S179
H. Lei, Y. Zhao, Y. Wen, Q. Luo, Y. Cai, G. Liu and B. Lei Sparse feature learning for multi-class Parkinson's disease classification	S193
H. Yu, X. Fan, L. Zhao and X. Guo A novel hand gesture recognition method based on 2-channel sEMG	S205
CI. Kim and JH. Lee The non-contact biometric identified bio signal measurement sensor and algorithms	S215
<i>J. Dai, Z. Ji, Y. Du and S. Chen In vivo</i> noninvasive blood glucose detection using near-infrared spectrum based on the PSO-2ANN model	S229
L. Qian, J. Wang, L. Jin, B. Song and X. Wu Effect of ventricular myocardium characteristics on the defibrillation threshold	S241
S. <i>Kim, J. Kim, S. Ahn and Y. Kim</i> Finger language recognition based on ensemble artificial neural network learning using armband EMG sensors	S249
K. Kim, W.K. Song, W.S. Chong and C.H. Yu Structural analysis of a rehabilitative training system based on a ceiling rail for safety of hemiplegia patients	S259
B. Garcia-Zapirain, D. Sierra-Sosa, D. Ortiz, M. Isaza-Monsalve and A. Elmaghraby Efficient use of mobile devices for quantification of pressure injury images	S269
S.D. Na, Q. Wei, K.W. Seong, J.H. Cho and M.N. Kim Noise reduction algorithm with the soft thresholding based on the Shannon entropy and bone-conduction speech cross-correlation bands	S281
JT. Kim, A. Choi, JH. Jeong, JH. Jo, OS. Ryu, EJ. Kim, KY. Kim, MH. Song, YH. Song, WS. Shin and SS. Lee Safety evaluation and consideration of 4 Pin Multi-needle for meso-therapy	S291
X. <i>He, Z. Yu, T. Wang, B. Lei and Y. Shi</i> Dense deconvolution net: Multi path fusion and dense deconvolution for skin lesion segmentation	S307

ii

Contents	iii
<i>M. Yarahmadian, Y. Zhong, C. Gu and J. Shin</i> Soft tissue deformation estimation by spatio-temporal Kalman filter finite element method	S317
X. Chai, Q. Wang, Y. Zhao, X. Liu, D. Liu and O. Bai Multi-subject subspace alignment for non-stationary EEG-based emotion recognition	S327
Y. Lu, Y. Ma, C. Chen and Y. Wang Classification of single-channel EEG signals for epileptic seizures detection based on hybrid features	S337
<i>J. Wu, Y. Liu, J. Zhang and W. Peng</i> Biomechanical investigation of orthodontic treatment planning based on orthodontic force measurement and finite element method before implemen- tation: A case study	S347
<i>W. Xu, H. Xia, W. Liu, W. Zheng and L. Hua</i> Exploration of genetics commonness between bladder cancer and breast cancer based on a silcio analysis on disease subtypes	S361
Y. Zhang, Q. Li, Y. Xin, W. Lv and C. Ge Association between serum magnesium and common complications of diabetes mellitus	S379
F. Ren, P. Cao, D. Zhao and C. Wan Diabetic macular edema grading in retinal images using vector quantization and semi-supervised learning	S389
Y. Zou, H. Ma, Z. Han, Y. Song and K. Liu Force control of wire driving lower limb rehabilitation robot	S399
Y. Kwon, JW. Kim, JH. Heo, HM. Jeon, EB. Choi and GM. Eom The effect of sitting posture on the loads at cervico-thoracic and lumbosacral joints	S409
JS. <i>Kim, JY. Baek, HB. Oh, SS. Lee and JH. Jun</i> Laser parameters for efficient biomedical stimulation: A study to increase cognitive response rate	S419
<i>MS. Kwon, YR. Kwon, YS. Park and JW. Kim</i> Comparison of gait patterns in elderly fallers and non-fallers	S427
P. Yang, D. Ni, S. Chen, T. Wang, D. Wu and B. Lei, Multi-task fused sparse learning for mild cognitive impairment identification	S437
P. Xie, M. Wang, Y. Guo, H. Wen, X. Chen, S. Chen and H. Lin Temperature dependent of viscoelasticity measurement on fat emulsion phantom using acoustic radiation force elasticity imaging method	S449
X. Liu, Q. Wang, D. Liu, Y. Wang, Y. Zhang, O. Bai and J. Sun Human emotion classification based on multiple physiological signals by wearable system	S459
S. Zhu, L. Luo, B. Yang, K. Ni, Q. Zhou, X. Li and X. Wang Effects of an intra-ventricular assist device on the stroke volume of failing ventricle: Analysis of a mock circulatory system	S471

Contents

J. Sohn, SH. Park and S. Kim Effects of DanceSport on walking balance and standing balance among the elderly	S481
Q. Wei, MJ. Kim and JH. Lee Development of capacitive sensor for automatically measuring tumbler water level with FEA simulation	S491
Y. Li, Y. Dai and Y. Guo The pulmonary damage caused by smoking: A longitudinal study	S501
<i>M. Li, H. Xu, X. Liu and S. Lu</i> Emotion recognition from multichannel EEG signals using K-nearest neigh- bor classification	S509
F. Ye, H. Zhan and G. Shi Design of liver functional reserve monitor based on three-wavelength from IR to NIR	S521

iv