

2010 3rd International Conference on Biomedical Engineering and Informatics

(BMEI 2010)

**Yantai, China
16-18 October 2010**

**Volume 1
Pages 1-455**



**IEEE Catalog Number: CFP1093D-PRT
ISBN: 978-1-4244-6495-1**

2010 3rd International Conference on Biomedical Engineering and Informatics

BMEI 2010 Table of Contents Volume - 1

Preface.....	iii
Keynote speakers.....	iv
Invited speakers.....	vi
Organizing Committee.....	x
Program Committee	xi
Reviewers.....	xiii

BioMedical Engineering

Biomedical Imaging, Image Processing, and Visualization (I)

3D Texture Analysis of Hippocampus Based on MR Images in Patients with Alzheimer Disease and Mild Cognitive Impairment.....	1
<i>Li Xin, Xia Hong, Zhou Zhen, and Tong Longzheng</i>	
A 3-D Display Method of Atrial ECG-Mapping Based on CT Images.....	5
<i>Zhan Qingbo, Chen Ying, Shao Yi, Yang Cuiwei, and Wu Zhong</i>	
A Computer Aided Measurement and Analysis System for Orthodontics Mould.....	9
<i>Wei Biao, He Peng, Zhou Chuantao, Feng Peng, and Mi Deling</i>	
A Hybrid Genetic Algorithm based on Quadratic Penalty Function for BLT Light Source Reconstruction....	13
<i>Gao Shuping, Zhang Qitian, and Zhang Ling</i>	
A Hybrid Optimization Method for Maximum Mutual Information Registration.....	18
<i>Pan Xiaoguang, Zhao Kai, Liu Jiren, and Kang Yan</i>	
A Hybrid Scatter Correction Method for Cone-Beam CT.....	23
<i>Zhang Feng, Yan Bin, Li Jianxin, Li Lei, Jia Pengxiang, and Hu Guoen</i>	
A multi-channel electrical impedance measurement system using DSP.....	28
<i>He Wei, Ju Kang, Li Bing, Xu Zheng, and He Chuanhong</i>	

A New Method for Removing Motion Artifacts in Parallel MRI Reconstruction.....	32
<i>Weng Zhuo, Xie Guo-xi, Liu Xin, Zheng Hairong, and Xiong Chengyi</i>	
A New Pattern Recognition Algorithm And Its Application About Tongue Fur Image Classification Of Traditional Chinese Medicine.....	37
<i>Wei Yuke, Li Jiangping, Chen Qun, and Liu Mei</i>	
A New Reconstruction Algorithm in Tomography with Geometric Feature-Preserving Regularization.....	41
<i>Chen Chong and Xu Guoliang</i>	
A New Regularization Approach to Reconstruct Tissue Properties Using a priori Information.....	46
<i>Ding Liang, Liu Peiguo, and Xue Guoyi</i>	
A New Strategy for Boundary Surface Detection in 3D Biomedical Images.....	51
<i>Cheng Liuhang, Wang Lisheng, and Ma Yu</i>	
A New Wavelet-based Cone-beam Local Reconstruction Algorithm for Off-centered Circular Trajectory.....	56
<i>Cao Haoshu, Cai Ke, Xu Min, and Li Deyu</i>	
A Novel Approach for Localization and Extraction of Left Ventricle in MSCT Data.....	61
<i>Wang Xingjia, Dong Lina, Tong Tong, Li Chuanfu, Zhou Heqin, and Feng Huanqing</i>	
A Prototype of Cone-Beam Breast Computed Tomography System and its Performance Evaluation.....	66
<i>Dayu Xiao, Lisheng Xu, Shouliang Qi, Yupeng Yao, and Yan Kang</i>	
A Robust and Accurate Detection of Pupil Images.....	70
<i>LIN LIN, PAN LIN, WEI LIFANG, and YU LUN</i>	
A Simulation Study on Induced Current Magnetic Resonance Electrical Impedance Tomography of Anisotropic Brain Tissues.....	75
<i>Liu Yang, and Dai Songshi</i>	
A Study of Automatic Recognition and Counting System of Urine-Sediment Visual Components.....	78
<i>Zhou Xiaomou, Xiao Xingming, and Ma Chi</i>	
Adaptive Non-dominated Sorting Genetic Algorithms for Wavelength Selection of Molecular Hyperspectral Images.....	82
<i>Li Qingli, Dai Chunni, Liu Jingao, and Wang Yiting</i>	
Adaptive parameter selection for Tikhonov regularization in Bioluminescence tomography.....	86
<i>Yu Jingjing, Liu Fang, He Xiaowei, and Jiao Licheng</i>	
ALFF Changes in Brain Areas of Human with High Myopia Revealed by Resting-state Functional MRI.....	91
<i>Guo Ming-xia, Dong Hong-huan, Zhang Yun-ting, Zhang Quan, and Yin Xiao-hui</i>	
An Acoustic Characteristic Study of Magneto-Acousto-Electrical Tomography.....	95
<i>zeng xiaoping, liu guoqing, xia hui, and xu xiaoyu</i>	
An Improvement of Accuracy of the Speckle Tracking Techniques by Sub-image Interframe Displacement's Prediction.....	99
<i>Sergey Yu.Sokolov and Felix A. Blyakhman</i>	

Analysis Model of X-ray Coherent Scatter Images.....	102
<i>Liu Taihui, Li Yanhong, Liu Jingxin, Qiao Shuang, and Song Jianzhong.</i>	
Analysis of Fas and Fas Ligand Expression and Function in Lung Cancer Cell Lines.....	106
<i>Li yin, zheng shi-ying, jiang dong, and ge jin-feng</i>	
Analysis on Intra-aneurysmal Flow Influence By Stenting.....	113
<i>Kelvin K.L.Wong, Thavornpattanapong Pongpat, Chaichana Thanapong, Sun Zhonghua, and Tu Jiyuan</i>	
Application of VR in Appendectomy Surgery System.....	118
<i>Ye Guiyun and Liu Changzheng</i>	
Automated Coronary Artery Anaysis System in 3D CTA Images.....	122
<i>Wang Yin, Meng Xinyu, and Wang Daobo</i>	
Automated Detection of Fetal Cardiac Structure from First-trimester Ultrasound Sequences.....	127
<i>Deng Yinhui, Wang Yuanyuan, and Chen Ping</i>	
Automatic 3D Segmentation of Human Airway Tree In CT Image.....	132
<i>Zhu Chenkun, Qi Shouliang, Yue Yong, Van Trist Han, Wang Shengjun, and Kang Yan</i>	
Automatic Detection of Antinuclear Autoantibodies Cells in Indirect Immunofluorescence Images.....	137
<i>Chiang Ai-Shan, Hsieh Tsu-Yi, Liu Po-Ting, Lien Yi-Ping, and Huang Yu-Len</i>	
Automatic Optic Disc Detection using Retinal Background and Retinal Blood Vessels.....	141
<i>Lu Shijian</i>	
Breast Density Classification Using Histogram Moments of Multiple Resolution Mammograms.....	146
<i>Liu Li, Wang Jian, and He Kai</i>	
CBCT Image Denoising Based on Multi-scale Wavelet Transform.....	150
<i>Yin Yong, Yu Gang, Wang Hongjun, Liu Zhi, and Li Dengwang</i>	
Characterization of Benign and Malignant Solid Breast Masses Using Vascular Morphology in 3D Power Doppler Ultrasound Images.....	154
<i>Chen Hong-Ting, Chen Dar-Ren, Lien Yi-Ping, Liu Po-Ting, and Huang Yu-Len</i>	
Coded Transmission for Ultrasound Doppler Detection Using Truncated Long Code.....	159
<i>Qin Zhengdi, Chen Siping, and Chen Xin</i>	
Comparing on Diffraction Enhanced Imaging of Different Tissues.....	162
<i>Chenglin Liu, Dianfeng Zhou, Hua Xu, and Changyuan Chen</i>	
Computed Diagnosis System for Lung Tumor Detection based on PET/CT Images.....	166
<i>Zhang Jilong, Zhang Wengiang, Chen Chen, Guan Yihui, and Wang Changmei</i>	
Constructing a Human Eye Model:The cornea shape effect on optical imaging for the human eyes.....	171
<i>Feng Jihong, Zhang Hanyu, Wang Xiaobing, and Liu Aizhen</i>	
Contrast Resolution Measurement of Three Primary Color of the Red, the Green and the Blue.....	174
<i>Liu Yu-hong, Wang Zhi-fang, and Xie Zheng-xiang</i>	

Deformation Estimated Using a Multiresolution Wavelet Representation for Adaptive Radiation Therapy.....	179
<i>Li Dengwang, Wang Xiuying, Wang Hongjun, Yin Yong, and Feng David Dagan</i>	
Deinterlacing Technique in Medical Endoscope System.....	184
<i>Tang Yiwen, Huang Chang, Gu Wenquan, and Fang Xiaoying</i>	
Design and Realization of an Interactive Medical Images Three Dimension Visualization System.....	189
<i>Wu Dongmei, Tian Heqiang, Hao Guangxin, Du Zhijiang, and Sun Lining</i>	
Development of simultaneous measurement techniques for event-related fMRI and EEG and observation of the activation process of P300.....	194
<i>WANG Li-qun and KURIKI Shinya</i>	
DNA stretching on super-aligned carbon nanotube films.....	199
<i>Deng Chuyun, Hong Xia, Zhang Shu, Liu Xiaochan, and Ma Wanyun</i>	
Drug-metabolism-based Automatic Segmentation of Dynamic Scintigraphic Images.....	203
<i>Wei Qingyang, Ma Tianyu, Jin Yongjie, Liu Yaqiang, Wang Shi, Mao Yilei, Du Shunda, and Tong Junxiang</i>	
Dual-tree Wavelet Based Algorithm for Speckle Reduction and Edge Enhancement in Ultrasound Images.....	208
<i>Yen Wen-Chien and Tai Shen-Chuan</i>	
Electric-Potential Reconstructions of Single Particles Using L^2 -Gradient Flows.....	213
<i>Li Ming, Xu Guoliang, Sorzano Carlos O.S., Melero Roberto, and Bajaj Chandrajit</i>	
Electrical Impedance Tomography Based on Filter Back Projection Improved by Means Method.....	218
<i>Wang Mingquan, Wang Guohua, Zhang Shi, and Zhao Jinshuan</i>	
Electrical Impedance Tomography Based on Tikhonov Regularization Method Improved by Level Set Method.....	222
<i>Wang Mingquan, Wang Guohua, Zhang Shi, and Zhao Jinshuan</i>	
Enhancement of Venous Vasculature in Susceptibility Weighted Images of the Brain Using Multi-Scale Vessel Enhancement Filtering.....	226
<i>Jin Zhaoyang, Xia Ling, and Du Yiping</i>	
Evaluation of a Cockpit by Eye Modeling Based Luminous Environment Simulation.....	231
<i>Wei Hengyang, Zhuang Damin, Song Guoling, Zhang Lei, and Wanyan Xiaoru</i>	
Evaluation of Optical Doppler Variance as a New Erythrocyte Aggregation Index.....	236
<i>Xu Xiangqun and Chen Zhongping</i>	
Evaluation of the Robustness of BrainVISA Software on Brain Sulcus Extraction.....	240
<i>Xia Mingrui, Li Shuyu, Pu Fang, Pei Baoqing, Niu Haijun, Li Deyu, and Fan Yubo</i>	
Exploratory Tongue Color Analysis with Manifold Learning.....	244
<i>Zhu Hao, Zuo Wangmeng, Zhang Hongzhi, Li Jianfeng, and Zhang David</i>	

Extraction of Cavity Boundary from Ultrasound Images.....	249
<i>Zhang Di, and Du Minghui</i>	
Feature Analysis in Slit-lamp Image for Nuclear Cataract Diagnosis.....	253
<i>Li Huiqi, Lim Joo Hwee, Liu Jiang, Wong Damon Wing Kee, and Wong Tien Yin</i>	
Feature Variation Curve Guided Transfer Function Design for 3D Medical Image Visualization.....	257
<i>Chu Haiyang, Chen Li, and Yong Junhai</i>	
Fetal Lung Segmentation Using Texture-based Boundary Enhancement and Active Contour Models.....	264
<i>Li Xiaomin, Wang Yuanyuan, Yu Jinhua, and Chen Ping</i>	
Flow Patterns and Shear Stress Investigation and In Vitro Studies of Blood Pump.....	269
<i>Wang Fangqun, Wu Qinlin, Jing Teng, Liu Linlin, and Qian Kunxi</i>	
FPGA-Accelerated Real-time Volume Rendering for 3D Medical Image.....	273
<i>Xing Jianguo, Liu Shufang, and Zhao Wenmin</i>	
Functional Neuroimaging Studies of Chinese Character and Pure Tone Processing for Language Education.....	277
<i>Li Xiujun, Wu Jinglong, and Guo Qiyong</i>	
Fuzzy Region Content Based Image Retrieval and Relevance Feedback for Medical Cerebral Image.....	282
<i>Shaofeng Jiang, Suhua Yang, Xuxin Zhou, and Wufan Chen</i>	
Head MRI Segmentation on Tissue Optical Properties.....	286
<i>chen chunxiao, and wu Jiani</i>	
Hemodynamic based cardiovascular surgical planning system.....	290
<i>Ding Jinli, Chai Linjuan, and Liu Youjun</i>	
Hemodynamics Simulation of Patient-Specific Surgical Planning For Tetralogy of Fallot.....	294
<i>Chai Linjuan, Ding Jinli, and Liu Youjun</i>	
Hemodynamics simulation of the intracranial bifurcation vessel with different shape.....	298
<i>He LingNa and Pan JianWei</i>	
Identification of Escherichia coli by Laser Induced Breakdown Spectroscopy.....	302
<i>Yao Mingyin, Lin Jinlong, Liu Muhua, Li Qiulian, Lei Zejian, and Huang Lin</i>	
Image Registration Methods for Contralateral Subtraction of Chest Radiographs.....	306
<i>Kawaguchi Tsuyoshi, Harada Yoshitomi, Nagata Ryoichi, and Miyake Hidetoshi</i>	
Impedance Imaging Based On Hexahedral FEM Realistic Head Model Simulation Research.....	314
<i>Yan Dandan, Xu Wenlong, and Li Jing</i>	
Implementation of Time Reversal Method (TRM)and its application to Magnetoacoustic Tomography(MAT).....	319
<i>Li Xun and Hu Sanqing</i>	

Individualized Cortical Function Mapping Using High Gamma Activity.....	324
<i>Qian Tianyi, Song Huaying, Chen Weixuan, Gong Enhao, Gao Shangkai, and Hong Bo</i>	
Intelligent Pulmonary Embolism Detection System.....	329
<i>Tsai Hao-Hung, Chin Chuin-Li, and Cheng Yung-Chih</i>	
Latent Variable Models for Assessing Interaction Effects in Cognitive Neuroscience.....	336
<i>Chen Cin-Ru, Tsai Liang-Ting, Yang Chih-Chien, and Yang Chih-Chiang</i>	
Low-cost High-resolution Animal SPECT Imaging on a Clinical SPECT Scanner.....	341
<i>Dai Tiantian, Ma Tianyu, Liu Hui, Cui Junjian, Liu Yaqiang, Wei Qingyang, Wu Jing, Wang Shi, and Jin Yongjie</i>	
Magnetic Resonance Image Enhancement based on Multiscale Retinex Algorithm.....	345
<i>HU HONGQING, and NI GUOQIANG</i>	
Mammographic Feature Enhancement Based on Second Generation Curvelet Transform.....	349
<i>Xue Qin, Yan Zhuangzhi, and Wang Shengqian</i>	
Mass Computer-Aided Diagnosis Method In Mammogram Based On Texture Features.....	354
<i>Ke Li, Mu Nannan, and Kang Yan</i>	
Matching Input Variables Sets and Feedforward Neural Network Architectures in Automatic Classification of Microcalcifications and Microcalcification Clusters.....	358
<i>Charles L.S. de Melo, Cícero F. F. Costa Filho, Marly G.F.Costa, and Wagner C. A. Pereira</i>	
Measurement of kurtosis in renal apparent diffusion coefficient and the limitation of mono-exponential model for quantification.....	363
<i>Ma Hsiang-Yang, Lee Jiann-Der</i>	
Medical Image Registration Based on Special Generalized Jensen-Schur Measure.....	366
<i>Hu Shunbo, Liu Changchun, Du Yu, Wang Junpu, Liu Chengyu, Yang Ying, and Huo Jianzhen</i>	
Medical Image Restoration using Multiple-Point Geostatistics.....	371
<i>Tuan D.Pham</i>	
Medical Image Segmentation using Characteristic Function of Gaussian Mixture Models.....	375
<i>Song Yuqing, Xie Conghua, and Chen Jianmei</i>	
Metal Artifact Reduction in CT Based on Adaptive Steering Filter and Nonlocal Sinogram Inpainting.....	380
<i>Li Yinsheng, Bao Xudong, Yin Yindao, Chen Yang, Luo Limin, and Chen Wufan</i>	
Modeling of 3D Left Ventricular Motion to Evaluate Paced Myocardial Function.....	384
<i>Ni Dong, Chen Siping, Sun Hongmei, and Wang Tianfu</i>	
Motion Compensation Based on Dynamic Data in PET Acquisition.....	389
<i>He Jianfeng, J. O'keefe Graeme, Ackerly Trevor, Sun Hua, and Geso Moshi</i>	
MRI brain tumor segmentation with region growing method based on the gradients and variances along and inside of the boundary curve.....	393
<i>Deng Wankai, Xiao Wei, Deng He, and Liu Jianguo</i>	

MRI Denoising Using the Anisotropic Coupled Diffusion Equations.....	397
<i>Zhang Fang and Ma Lihong</i>	
Multi-channel Magnetic Induction Tomography Measurement System.....	402
<i>He Wei, Luo Haijun, Xu Zheng, and Wang Junfeng</i>	
Multi-dimensional Data Analysis of Intracerebral Hemorrhage from CT Images.....	406
<i>Jianmin Dong and Fangxia Shi</i>	
Multi-feature Based Transfer Function Design for 3D Medical Image Visualization.....	410
<i>Peng Yi and Chen Li</i>	
Multi-scale Descriptors For Contour Irregularity Of Skin Lesion Using Wavelet Decomposition.....	414
<i>Ma Li, Qin Bo, Xu Weidong, and Zhu Lei</i>	
Multiresolution Fractal Analysis and Classification of Neurite Images.....	419
<i>Zhang Bai-ling and Lu Wenjin</i>	
Multiscale Image Analysis for the Quantitative Evaluation of Periapical Lesion Healings.....	424
<i>Kim Desok, Jeong Hyekyung, Kim Minjin, Kim Changick, and Lee Byung-Do</i>	
Multiscale Wiener Filtering Method For Low-Dose CT Images.....	428
<i>Ke Li and Zhang Rendong</i>	
Nanocomposite hydrogels : a novel Wound dressings.....	432
<i>Y. M.ZHOU, T. Mizuno, K. Haraguchi, and Y. Tatsumi,</i>	
Non-uniform Multi-resolution Analysis Approach in Medical Image Registration.....	435
<i>Hu Shunbo</i>	
Novel Miniaturized Multispectral Imaging Instrumentation for Real-time Bruise Detection.....	439
<i>Yi Dingrong and Kong Linghua</i>	
Novel Neuroimaging Technique and Measurement of Contrast Sensitivity with Wide-View Stimuli in Human Visual Cortex.....	443
<i>Yan Tianyi, Wang Bin, and Wu Jinglong</i>	
Optimize ASIC Design by Statistics Analysis and Fixed Parameter for Special-Imagery Compression.....	448
<i>Xu Xinfeng and Hei Yong</i>	
Parallel No-waiting Pipelining Accelerating CT Image Reconstruction Based on FPGA.....	451
<i>Jingfei Deng, Bin Yan, Jianxin Li, and Lei Li</i>	

Author Index

2010 3rd International Conference on Biomedical Engineering and Informatics

(BMEI 2010)

**Yantai, China
16-18 October 2010**

**Volume 2
Pages 456-915**



**IEEE Catalog Number: CFP1093D-PRT
ISBN: 978-1-4244-6495-1**

2010 3rd International Conference on Biomedical Engineering and Informatics

BMEI 2010 Table of Contents Volume - 2

Preface.....	iii
Keynote speakers.....	iv
Invited speakers.....	vi
Organizing Committee.....	ix
Program Committee	x
Reviewers.....	xii

Biomedical Imaging, Image Processing, and Visualization (II)

Photoacoustic Tomography of Micro-blood Vessels in Tissue Mimicking Phantom..... <i>Lu Tao and Zang Haihe</i>	456
Preclinical Studies Of S1 In K562 Cell Line And Primary Chronic Myeloid Leukemia Cells Shown Synergistic Effect With Cytosine Arabinoside Hydrochloride..... <i>WenJuan Chen,ChangJi Yuan,ZhiChao Zhang,Wei Han,PeiRan Xu, and Le Han</i>	459
Preliminary Study of B-value Dependence of MR Diffusion Tensor Imaging Measurements in Myocardium Structure Characterization..... <i>Wu Yin,Zou Chao,Zhang Na,Xie Guoxi,Feng Fei,Liu Yang, and Liu Xin</i>	464
Preparation of An Antibacterial Peptide Bovine Lactoferricin by Genetic Engineering..... <i>Deng Qiang ,Ding Zhuoping , Liu Chengchu, and Lu Jianzhang</i>	467
Quality Multi-domain Meshing for Volumetric Data..... <i>Zhang Qin,Subramanian Bharadwaj,Xu Guoliang, and Bajaj Chandrajit</i>	472
Quantitative Measurement of Human Chorionic Gonadotropin (hCG) Based on Digital Image Processing..... <i>Shi Mengying,Cui Meng,Zhu Yisheng,Niu Jinhai, and Tong Shanbao</i>	477
Radiographic Analysis of Peri-Implant Trabecular Bones After Implant Placement..... <i>Kim Minjin,Jeong Hyekyung,Kim Wonjun,Kim Han Kyul,Kim Desok, and Lee Byung-Do</i>	480
Real-Time Imaging of Cytoplasm Acidification in GSNO-induced Mouse Thymocyte early Apoptosis..... <i>Liu Xiaochen and Ma Wanyun</i>	485

Region of Interest Three-dimensional Visualization in Clinical Human CT Images Sequence.....	490
<i>Hu Zhanli,Zhang Na,Zou Jing,Rong Junyan,Gui Jianbao,Zhang Qiyang,Xia Dan, and Zheng Hairong</i>	
Registration and Fusion of Human Craniocerebral 3d Models Reconstructed from Multimodality Images.....	494
<i>Wu Hui-Qun ,Geng Xing-Yun,Zhang Yuan-Peng,Dong Jian-Cheng,Jiang Kui,Han Xiao, and Lv Guang-Min</i>	
Registration of Head CT Images with Subarachnoid Hemorrhage.....	498
<i>Li Yonghong,Wu Jianhuang,Chen Zhijun,Jia Fucang, and Hu Qingmao</i>	
Relationship of Fas 、FasL、53 and bcl-2 Expressions in Human Non-Small Cell Lung Carcinomas.....	503
<i>li yin,jiang dong,zhao jun,ge jin-feng, and zheng shi-ying</i>	
Relationships Between the Three-dimension Morphologic Parameters of Proximal Femurs.....	511
<i>Lv Linwei,Meng Guangwei,Zhu Weimin,Gong He,Zhu Dong, and Zhang Xizheng</i>	
Research on Image Registration for 2D Representation of GI tract in Micro-Ball Endoscopy System.....	514
<i>Wang Dan,Xie Xiang, Gu Yingke,Sun Tianjia, Wang Zhihua, and Li Guolin</i>	
Restructuring Centipedes and their Applications to Fast Extraction of Structures in Electron Microscope Tomography Images.....	518
<i>Nouri Shirazi Mehdi and Kamakura Yoshiyuki</i>	
Retinal Image Acquisition System in Intraocular Pressure Measurement.....	524
<i>Yang Libin and Zhao Xingqun</i>	
Robust Topology-adaptive Snakes for Medical Ultrasonic Image Segmentation.....	527
<i>Diao Xian-Fen,Zhang Xin-Yu,Wang Tian-Fu,Chen Si-Ping, and Li Li-Hua</i>	
Segmentation For Finger Vein Image Based On PDEs Denoising.....	531
<i>Zhang Fengchun,Guo Shuxu, and Qian Xiaohua</i>	
Segmentation of Gallbladder from CT Images for A Surgical Training System.....	536
<i>Zhou Jiayin,Huang Weimin,Zhang Jing,Yang Tao,Liu Jiang,Chui Chee Kong, and Chang Stephen</i>	
Segmentation of medical images using Selective Binary and Gaussian Filtering Regularized Level Set (SBGFLS) method.....	541
<i>Banerjee Supratik and Bhattacharya Mahua</i>	
Segmentation of Medical Ultrasound Image Based on Local Histogram Range Image.....	546
<i>Kermani Ali,Ayatollahi Ahmad, and Talebi Mohammad</i>	
Segmentation of Scalp, Skull, CSF, Grey Matter and White Matter in MRI of Mouse Brain.....	550
<i>Wang Xinzeng ,Li Weitao ,Wang Xuena , and Qian Zhiyu</i>	
Semi-automatic Segmentation of Renal Cortex and Medulla Based on Dynamic Magnetic Resonance Images.....	555
<i>Qing Cai,Ping Geng,Hong Li,Haoran Sun, and Yan Kang</i>	
Sex Differences in Brain Gray and White Matter in Healthy Young Adults: Correlations with Resting State ALFF.....	560
<i>Dong Hong-huan,Guo Ming-xia,Zhang Yun-ting,Fu Yue , and Shi Hui-lan</i>	

Skeleton Extraction of Cerebral Vascular Image Based on Level Set Model.....	564
<i>Zhang Guofang, and Feng Daming</i>	
Skeleton Extraction of Cerebral Vascular Image Based on Topology Node.....	569
<i>Qi Aipeng ,and Xu Jing</i>	
Software Implementation of Real-time Digital Scan Converter.....	574
<i>wang hui,deng Juan,li dongdong,xie xiuxiu,guo quanzhong, and zheng zheng</i>	
Sparse regularization in MRI iterative reconstruction using GPUs.....	578
<i>Zhuo Yue, Sutton Bradley, Wu Xiao-Long,Haldar Justin,Hwu Wen-mei, and Liang Zhi-pei</i>	
Study on Adopting Optimum Binary Phase Serial to Enhance SNR and Penetrating of Ultrasonic Images.....	583
<i>Miao Yalin,Hu Lan,Yang Yan, and Hao Hongfei</i>	
Study on Medical X-ray Coherent Scatter Imaging and Processing Based Digital Flat Detector.....	589
<i>Liu Jingxin,Liu Taihui,Lv Yan,Hu Boqi,Li Bo, and Zhao Jinshan</i>	
Study on Texture Characteristics of Hippocampus in MR Images of Patients with Alzheimer's Disease.....	593
<i>Zhou Xiaoxia,Liu Zhuo,Zhou Zhen, and Xia Hong</i>	
T2 Mapping on Low-field MR System Based on T2NR.....	597
<i>Dai Ruibin,Zhao Cong,Zhou Xiaodong,Xie Guoxi,Liu Xin, and Zheng Hairong</i>	
The analysis of blood flow changes under local anesthetic input using non-contact technique.....	601
<i>Rubins Uldis,Misciukas Aleksejs,Rubenis Oskars,Erts Renars, and Grabovskis Andris</i>	
The Bone Slot Effect Study Of PI Procedure For Craniostosis Correction Plan Based On Finite Element Method.....	605
<i>You Jia,Jiang Xianfeng,Hu Meiyuan,Wang Ning,Shen Zhipeng,Li Junyuan, and Peng Wei</i>	
The Corner Detector Of Teeth Image Based On The Improved SUSAN Algorithm.....	609
<i>Li Huanli,Guo Lihong,Chen Tao,Wang Xinzui, and Yang Limei</i>	
The Feasibility of Using PWI Analysis Software In Assessment of Carbogen Breathing BOLD-fMRI In Normal Prostate.....	613
<i>WANG Xi-Zhen,DONG Peng,SUN Ye-Quan,WANG Bin,LIU Jin-Gang, and JIAO Zi-Mei</i>	
The influence of monochrome liquid crystal displays with different resolutions on observer performance for the Detection of Pulmonary Nodules.....	617
<i>Yin Jiandong,Guo Qiyong,Wang Yan, Ma Yue, and Sha Xianzheng</i>	
The Monte Carlo method for the evaluation of automatic recontouring algorithms accuracy.....	621
<i>Faggiano Elena,Fiorino Claudio, and Rizzo Giovanna</i>	
The Processing of Blood Cell Micro-flow Image and Objects Recognition.....	625
<i>Wang Xiaozhang,Wang Chaohui,Zhang Xiang,Zhang Fei, and Zhang Liang</i>	
The Processing of Cardiac Image Based on Optical Mapping.....	629
<i>Xiao Hua and Lv Xizhao</i>	

The Research on Evaluation of Diabetes Metabolic Function Based on Support Vector Machine.....	634
<i>Huang Chunquan,Jiang Guotai,Chen Zhihong, and Chen Shuhao</i>	
The Retinal Image Registration Based on Scale Invariant Feature.....	639
<i>Wei LiFang,Pan Lin ,Lin Lin, and Yu Lun</i>	
The Split Bregman Method of Image Decomposition Model for Ultrasound Image Denoising.....	644
<i>Wang Guodong,Pan Zhenkuan,Zhao Zengfang, and Sun Xiaotong</i>	
Three-Dimensional Ultrasonic Data Smooth and Endocardial Extraction.....	648
<i>Luo Xionghu,Xiong Huilin, and Chen Guozhen</i>	
Time-Frequency Analysis of the Thermoacoustic Signals for Early Breast Cancer Detection.....	653
<i>Guo Yuanyue ,Wang Meng, and Wang Gang</i>	
Tongue Image Classification Based on Universum SVM.....	657
<i>Jiao Yue,Zhang Xinfeng,Zhuo Li,Chen Mingrui, and Wang Kai</i>	
Trial-and-error approach to the bioluminescence tomography inverse problem.....	661
<i>He Xiaowei,Zhang Zhiyong,Yu Jingjing,Ren Nunu, and Xie Yiping</i>	
Ultrasonic Transducer Array Design For Medical Imaging Based on MEMS Technologies.....	666
<i>Wang Yu-Feng,Yang Yi,Ren Tian-Ling,Chen Hao,Liao Wen-Jun,Kong Xiang-Ming,Wang Li-Gang,Zhou Chang-Jian,Fu Di, and Liu Li-Tian</i>	
Use of Box-Behnken Design for the Optimization of Supercritical Carbon Dioxide Extraction of Oil from Schisandra Chinensis(Turcz.) Baill.....	670
<i>Bin Li,Xianjun Meng,Yuansu Li, and Xue Xue</i>	
Vessel Segmentation on Angiogram using Morphology Driven Deformable Model.....	675
<i>Yu Zulong and Sun Kaiqiong</i>	
Volume Segmentation of Susceptibility Weighted Images of the Brain Using a Level Set Approach.....	679
<i>Jin Zhaoyang,Xia Ling, and P.Du Yiping</i>	
Biomedical Signal Processing and Analysis(I)	
A Computer-aided Analyzing System for Fetal Monitoring Parameters.....	684
<i>Lu Yaosheng,Bao Lelian,Lu Cen, and Liang Jiashuo</i>	
A General-purpose Representation of Biosignal Data Based on MFER and CDA.....	689
<i>Wang Yibao,Liu Yang,Lu Xudong,An Jiye, and Duan Hui long</i>	
A New Quantitative Evaluation Method of Parkinson's Disease based on Free Spiral Drawing.....	694
<i>Wang Min ,Wang Bei,Zou Junzhong,Chen Lanlan,Shima Fumio, and Nakamura Masatoshi</i>	
A Novel Method Of Identifying The Quality Of Peucedanum: The UV Two-Dimensional Correlation Analysis Based On pH Perturbation.....	699
<i>Yan Hui, Jiang Ming-Zhu, and Han Bang-Xing</i>	
A Post-processing Method for EISI to Distinguish Breast Lesions.....	704
<i>ZHANG Feng,XIE Shipeng,HU Fei,LUO Limin, and BAO Xudong</i>	

A precise Ambulatory ECG Arrhythmia Intelligent Analysis Algorithm Based on Support Vector Machine Classifiers.....	708
<i>She Lihuang,Song Yuning,Zhang Shi, and Xu Zhongqiang</i>	
A Simple Way of Distinguishing Chaotic Characteristics in ECG signals.....	713
<i>wang kaifu,zhao yi,sun xiaoran, and weng tongfeng</i>	
A Smartphone Based Respiratory Biofeedback System.....	717
<i>Zhang Zhengbo,Wu Hao,Wang Weidong, and Wang Buqing</i>	
Adaptive Lifting Scheme for ECG QRS Complexes Detection and its FPGA implementation.....	721
<i>Li Yan,Yu Hang,Jiang Lai,Ma Lixiao, and Ji Zhen</i>	
An Approach to QRS Complex Detection Based on Multiscale Mathematical Morphology.....	725
<i>Hu Ji-Le and Bao Shu-Di</i>	
An ECG T Waves Detection Scheme Based on the Compensatory Criterion.....	730
<i>wan xiankui and xu du</i>	
An Experience-Based Multi-lead Decision Model for Electrocardiogram Wave Boundary Detection.....	735
<i>Zhu Kanjie,Wang Liping,Shen Mi, and Dong Jun</i>	
An Improved Automatic Detector of T-wave Alternans in ECG using Multi-pretreatment.....	740
<i>He Chen,Chen Hang, and Ye Shuming</i>	
An Improved Phase-Tagged Stimuli Generation Method In Steady-State Visual Evoked Potential Based Brain-Computer Interface.....	745
<i>Wong Chi Man,Wang Boyu,Wan Feng ,Mak Peng Un,Mak Pui In, and Vai Mang I</i>	
Analysis of Amino Acids in Foodstuff by Nuclear Magnetic Resonance.....	750
<i>Yang Yang,Chang Liping,Yang Luyuan, and Lu Yumeng</i>	
Analysis of glycosides in traditional Chinese medicine using electrochemical detection.....	755
<i>Kwon Ha-Jeong and Park Yong-Duk</i>	
Analysis of Sustained Maximal Grip Contractions Using Empirical Mode Decomposition.....	759
<i>Li Ke,Hogrel Jean-Yves,Duchêne Jacques, and Hewson David</i>	
Application of quadratic optimization to multi-class common spatial pattern algorithm in brain-computer interfaces.....	764
<i>Wei Qingguo ,Ma Yuhui, and Chen Kui</i>	
Apply Grey System Theory in the Factor Weighting Analysis of Liver Function.....	768
<i>Wen Kun-Li,You Mei-Li,Liu Wei-Ling, and Lee Bih-Yun</i>	
Assessing Muscle Fatigue by measuring the EMG of Biceps Brachii.....	773
<i>Shaw Dein and Huang Chi Ren</i>	
Baseband System for Human Body Channel Communication.....	778
<i>Lin-hua Zhang,Xin-zhuo Liu,Jin Huang, and Lei Wang</i>	

Brain's Electrical Response To Visual And Auditory Stimuli. Relations Between The Two Stimuli Modalities.....	782
<i>Giesteira Bruno, Travassos João, Tavares Diana, and Freitas Diamantino</i>	
Cancellation of High-Frequency Noise in ECG Signals Using Adaptive Filter without External Reference.....	787
<i>Chang Ching-Haur, Chang Kang-Ming, and Ko Hsien-Ju</i>	
Changes in Forefoot Plantar Pressure with Shoe of Different Heel Height.....	791
<i>Xingfang Lu</i>	
Characteristic Parameters of Multifractal Singularity Spectrum of Synchronous 12-lead ECG signals.....	795
<i>Xu Yinlin, Wang Jun, and Ning Xinbao</i>	
Characteristics of Stimulus Artifacts in EEG Recordings Induced by Electrical Stimulation of Cochlear Implants.....	799
<i>Li Xiaoxia, Nie Kaibao, Karp Floyd, L. Tremblay Kelly, and T. Rubinstein Jay</i>	
Classification of ECoG Motor Imagery Tasks Based on CSP and SVM.....	804
<i>Liu Chong, Zhao Hai-bin, Li Chun-sheng, and Wang Hong</i>	
Classification of Electroencephalogram Signals Using Artificial Neural Networks.....	808
<i>Rodrigues, Pedro Miguel and Teixeira, João Paulo</i>	
Comparison of Six Envelope Extraction Methods Based on Abnormal Heart Sounds.....	813
<i>Xu Lisheng, Wang Ying, Yao Yupeng, Feng Cong, Zhao Yue, and Meng Max Q.-H</i>	
Complexity Analysis of EEG Signals Evoked by Acupuncture at 'Zusanli' Acupoint (St36).....	818
<i>Luo Xiliu, Wang Jiang, Li Nuo, Deng Bin, Wei Xile, and Li Huiyan</i>	
Correlation Between Alpha Rhythm and Cognitive Processes.....	823
<i>Chen Zhihua, Zou Safeng, Meichsner Jie Hu, and Zhao Li</i>	
Correlation between Decomposed Modes from Carotid and Wrist Arteries and Its application for Coronary Heart Disease.....	828
<i>Sun Ren and Dong Cheng</i>	
Correlations between Speed of Sound and Micro-structure in Swine Cancellous Bone during Decalcification.....	833
<i>Shao Xiaoning, Niu Haijun, Fan Yubo, Li Deyu, Pu Fang, Pei Baoqing, and Sun Lianwen</i>	
De-noising Of ECG based On EMD Improved-thresholding And Mathematical Morphology Operation.....	838
<i>She Lihuang, Xu Zhongqiang, Zhang Shi, and Song Yuning</i>	
Decision Level Fusion for Pulse Signal Classification Using Multiple Features.....	843
<i>Jia Danbing, Li Naimin, Liu Shan, and Li Shiwei</i>	
Decomposition of MUAP Superimposed Waveforms Based on Time-Frequency Distribution.....	848
<i>Wei Daixiang, Yang Jihai, Chen Xiang, and Lei Peiyuan</i>	
Design and Development of Multimodal Analysis System based on Biometric Signals.....	853
<i>Kim Taehyun, Shin Dongil, Shin Dongkyoo, Kim Soohan, and Lee Myungsu</i>	

Detection of ECG Characteristic Points Using Biorthogonal Spline Wavelet.....	858
<i>Pan Tao,Zhang Lei,and Zhou Shumin</i>	
Doppler Blood Flow Signal Analysis Meets Traditional Pulse Diagnosis.....	864
<i>Jiang Xiaorui</i>	
ECG Signal Adaptive Filtering and QRS Complex Detecting Method.....	869
<i>Zhao Jiyin,Li Min,Zhang Weiwei,and Zheng Ruirui</i>	
ECoG-based Brain-Computer Interface Using Relative Wavelet Energy and Probabilistic Neural Network.....	873
<i>Zhao Hai-bin,Yu Chun-yang,Liu Chong,and Wang Hong</i>	
EEG Analysis Based on Wavelet-Spectral Entropy for Epileptic Seizures Detection.....	878
<i>Mirzaei Ahmad,Ayatollahi Ahmad,Gifani Parisa,and Salehi Leili</i>	
Effect of Skin Pressure Caused by the Cuff on Female Heart Rate Variability.....	883
<i>Yin Ling,Zhang Wenbin,and Xia Lei</i>	
Electrocardiogram Analysis based on the Karhunen-Loëve Transform.....	887
<i>Yan Hong and Li Yanjun</i>	
Feature Extraction and Classification of EEG for Imagery Movement Based on Mu/Beta Rhythms.....	891
<i>sijuan huang and xiaoming wu</i>	
Feature Extraction of Brain-Computer Interface based on Improved Multivariate Adaptive Autoregressive Models.....	895
<i>Wang Jiang,Xu Guizhi,Wang Lei,and Zhang Huiyuan</i>	
Fetal ECG Extraction Based on Adaptive Linear Neural Network.....	899
<i>JIA Wenjuan ,YANG Chunlan,ZHONG Guocheng,ZHOU Mengying,and WU Shuicai</i>	
Forewarning Assessment of Psychological Crisis in Post-disaster Based on Principal Component Analysis and Neural Network.....	903
<i>Shan Wei ,Zhou Qin ,Pan Yichao ,and Tong Hengqing</i>	
FPGA-based Multi-frequency Excitation and Modulation Technology in EIT System.....	907
<i>Zhang Xuehui,Wang Huaxiang,Chen Shenghua,and Zhang Yan</i>	
Hardware-accelerated Implementation of EMD.....	912
<i>Wang Lei,Vai Mang I,Mak Peng Un,and leong Chio In</i>	

Author Index

2010 3rd International Conference on Biomedical Engineering and Informatics

(BMEI 2010)

**Yantai, China
16-18 October 2010**

**Volume 3
Pages 916-1356**



**IEEE Catalog Number: CFP1093D-PRT
ISBN: 978-1-4244-6495-1**

2010 3rd International Conference on Biomedical Engineering and Informatics

BMEI 2010 Table of Contents Volume - 3

Preface.....	iii
Keynote speakers.....	iv
Invited speakers.....	vi
Organizing Committee.....	ix
Program Committee	x
Reviewers.....	xii

Biomedical Signal Processing and Analysis (II)

Hyperemia Response of Tissue Oxygenation as Assessed by the Near Infrared Spectroscopy in Persons with Spinal Cord Injury.....	916
<i>Wang Yan,Li Zengyong,Lu Changzhou,Li Jianping,Zhang Liangliang, and Wang Yonghui</i>	
Identifying Type of Maize with Terahertz Time-domain Spectroscopy.....	918
<i>Sun Jinhai,Shen Jingling,Li Ning,Lu Meihong,Jia Yan,Guo Jinglun, and Zhang Jingmei</i>	
Impedance Feature Extraction of Breast Cancer and the Surrounding Tissues.....	922
<i>Chao Wang,Mingdong Li, and Minsi Yao</i>	
Implementation of Derivative Based QRS Complex Detection Methods.....	927
<i>Kher Rahul,Vala Dipak,Pawar Dr. Tanmay, and Dr. V K.Thakar</i>	
In-vivo Coordinate Measurement Based on Electric Field Location System.....	932
<i>Chen Zhongzhong,Su Zhijian,Wei Zheng, and Xia Zhenhong</i>	
Large Blood Vessel Effect on Thermal Ablation with a Water-Cooled Microwave Antenna.....	936
<i>Nan Qun ,Lu Yulin ,Liu Youjun , and Zeng Yi</i>	

Measurements of Functional Connectivity Between Cerebral Regions During Auditory Sensory Memory Processing.....	939
<i>Hsiao Fu-Jung, and Lin Yung-Yang</i>	
Measuring Glucose Concentration by Microwave Cavity Perturbation and DSP Technology*.....	943
<i>Wang Qing, Deng Xiaoguang, Yang Min, Fan Yun, and Wang Weilian</i>	
Metabolite Absolute Quantification in Rabbit liver by Proton Magnetic Resonance Spectroscopy.....	947
<i>Shen Zhiwei, You Kezeng, Yang Zhongxian , Chen Yaowen , and Wu Renhua</i>	
Modeling of Human Lower Limb and Technical Analysis of Athlete's High Leg Lift.....	951
<i>Han Shuyang, Ge Shirong, and Liu Hongtao</i>	
Motor Imagery EEG Recognition Based on Biomimetic Pattern Recognition.....	955
<i>Xu Kai and Wu Yan</i>	
Multi-lead ECG Classification based on Independent Component Analysis and Support Vector Machine.....	960
<i>Shen Mi, Wang Liping, Zhu Kanjie, and Zhu Jiangchao</i>	
Music Therapy on Heart Rate Variability.....	965
<i>Zhou Peng, Sui Fangfang, Zhang Anqiong, Wang Fang, and Li Guohui</i>	
Non-linear Characteristic of Human Blood NIR Spectra.....	969
<i>yuliang Liu, weiming Yang, and lihui Liu</i>	
Noninvasive Blood Pressure Analysis using Empirical Mode Decomposition (EMD) - Based Oscillometric Method.....	973
<i>Hsiao Fu-Jung and Hung Chen-Chuan</i>	
Nonlinear Feature Comparision of EEG Using Correlation Dimension and Approximate Entropy.....	978
<i>Geng Shujuan and Zhou Weidong</i>	
Ophthalmic A-scan Ultrasonic Measuring Instrument Based on MSP430.....	982
<i>Chen Juan and Zhao Xingqun</i>	
Orthogonal Least Square Based Support Vector Machine for the Classification of Infant Cry with Asphyxia.....	986
<i>R.Sahak, W .Mansor, Y.K.Lee, A. I Mohd Yassin., and A.Zabidi</i>	
Particle Swarm Optimisation of Mel-frequency Cepstral Coefficients Computation for the Classification of Asphyxiated Infant Cry.....	991
<i>A. Zabidi, W. Mansor, Y. K. Lee, A. I. Mohd Yassin, R. Sahak</i>	

Procedure to Identify Sleep Apnea Events from Statistical Features.....	996
<i>Tan-a-ram Surapol and Thanawattano Chusak</i>	
Quantitative Relationship Modeling between Surface Electromyography and Elbow Joint Angle.....	1002
<i>Wu Dongmei,Sun Xin ,Zhang Zhicheng,Du Zhijiang, and Sun Lining</i>	
Radial Pulse Analysis at Deep Pressure in Abnormal Health Conditions.....	1007
<i>Thakker Bhaskar,Vyas Anoop Lal, and DM Tripathi</i>	
Recurrence Quantification Analysis Base on Wavelet Packets for Wrist Pulse.....	1011
<i>Yan Jianjun,Zhou Chiheng,Wang Yiqin,Li Fufeng,Guo Rui,Xia Chunming, and Yan Haixia</i>	
Research of Biomechanics Parameters Optimization of Femur Neck Fracture Fixation.....	1016
<i>Shuqin Wu,Hongxia Pan, and Baoqing Pei</i>	
Research of Complex Physiological Signals Based on Nonlinear Theory.....	1020
<i>Yang Xiaodong,Chen Wei,Ma Shanshan, and Sun Tongfeng</i>	
Research on Signal-to-noise Ratio (SNR) Affect Physiological Parameters in Tumor.....	1024
<i>Qian Ying and Zhang Yang</i>	
Research on stimulus pattern for inhibition of detrusor hyperreflexia.....	1029
<i>Dong Qian,Zhang Xu,Sun Chen,Chen Guoqing, and Cui Nan</i>	
Research on T-wave Morphology Analysis in ECG Signal.....	1033
<i>Jinzhong Song,Hong Yan, and Zhijun Xiao</i>	
Robust EP Latency Change Estimation Algorithm under Time-variant Impulsive Noise Environments....	1037
<i>Sun Yongmei and Qiu Tianshuang</i>	
Study on Predicting Method for Acute Hypotensive Episodes Based on Wavelet Transform and Support Vector Machine.....	1041
<i>Wang Zhigang,Lai Lijuan,Xiong Dongsheng, and Wu Xiaoming</i>	
Testing Glucose Concentration in Aqueous Solution Based on Microwave Cavity Perturbation Technique.....	1046
<i>Fan Yun,Deng Xiaoguang ,Wang Qing, and Wang Weilian</i>	
The Enhancement of Pulse-echo Ultrasound Signal Using Adaptive Filter with NLMS.....	1050
<i>Li Dongdong,Wang Hui,Deng Juan,Zheng Zheng, and Bu Zhaohui</i>	
The Method Evaluation for Preictal Prediction of Epilepsy with Strong-noise EEG and Simulation of Automatic Drug Release System.....	1054
<i>Tong Lingli,Wang Wei,Zhao Ning, and Huang Xiaona</i>	

The Methods And Limitations Of Extracting Respiratory Rhythm Utilizing Photoplethysmographic Signals.....	1059
<i>Guo Lihua,Lei Sheng, and Pan Min</i>	
The Phase Analysis Of Ongoing EEG Oscillations Under Face/Object Perception.....	1063
<i>Gu Guan,Yang Yuan,Zhu Yisheng, and Qiu Yihong</i>	
The Progress of Research on Prediction Model for Acute Hypotensive Episodes.....	1067
<i>Lai Lijuan,Wang Zhigang, and Wu Xiaoming</i>	
The Removal of Blink and Saccade Artifact in EEG recordings by Independent Component Analysis....	1071
<i>Dong Jie,Wang Tao,Zhang Ai-tao, and Dai Hong-ya</i>	
The Study on Improving Fluorescence Microscopy Image Effects of Genomic In Situ Hybridization.....	1076
<i>Qu Min and Zhang Yanming</i>	
Two-dimensional Frequency Shift Track Based on Geometric Moment Invariants.....	1079
<i>Yang Xiao,Binjin Chen, and Jianguo Yu</i>	
Wavelet Packet Based Analysis of Sound of Five Internal Organs in TCM.....	1084
<i>Yan Jianjun,Mao Siyuan,Wang Yiqin,Li Fufeng,Guo Rui,Yan Haixia,Xia Chunming, and Shen Qingwei</i>	
Wavelet Packet Energy Entropy Analysis of EEG Signals Evoked by Acupuncture.....	1089
<i>Bian Hongrui,Wang Jiang,Li Nuo,Deng Bin,Wei Xile, and Li Huiyan</i>	

Medical Data Storage and Compression

The Sparse Decomposition and Compression of ECG and EEG Based on Matching Pursuits.....	1094
<i>Wu Yanling,Zhang Hongxin,Wang Haiqing, and Lu Yinghua</i>	

Biomedical Modeling

A Finite Element Analysis of Mechanics about the Long Head of Biceps Brachii Tendon.....	1098
<i>Cao Zhilin,Zhu Dong,Sun Dahui, and Zhang Xizheng</i>	
A Finite Element Model of Upper Cervical Vertebrae (C0-C3) and Biomechanical Analysis of the Atlas...	1102
<i>Guo Yuan,Zhang Xushu,Chen Weiyi,Ma Xun,Guan Zhe, and Li Kaiheng</i>	
A heart failure diagnosis model based on support vector machine.....	1105
<i>Yang Guiqiu,Ren Yinzi,Pan Qing ,Ning Gangmin,Gong Shijin ,Cai Guolong,Zhang Zhaocai,Li Li, and Yan Jing</i>	

A Mathematical Model for Acute Hepatitis B Virus Infection.....	1109
<i>Du Lijuan,Huang Dongwei, and Xie Qizhi</i>	
A modeling study of blood flow and oxygen transport in the circle of Willis.....	1114
<i>Ji Chang-JIn,He Ying ,and F.Y.Liang</i>	
A New Simulation Algorithm for Simulating Biochemistry Reaction Using Agent.....	1119
<i>Dongjie Zhu,Gang Cui,Junheng Huang, and Zhaoxin Zhang</i>	
Analysis of Membrane Dynamics of Hippocampal CA1 Pyramidal Neurons.....	1124
<i>Xie Nan,Qiao Qingli, and Wang Dan</i>	
ANN Approach for Modeling and Prediction of Water Quality in Sichuan Kaschin-Beck Disease Districts.....	1129
<i>Li Jun,Cao Nan,Li Heng,Li Zhong-bao, and Ye Kun</i>	
Biological Effects of Temperature and Salinity on Larval Quality of Tridentiger trigonocephalus.....	1133
<i>Feng Guangpeng,Zhuang Ping,Zhang Longzhen,Zhang Tao, and Huang Xiaorong</i>	
Biological Memory in Ischemic Preconditioning.....	1138
<i>Shi Jichen and Yang Ling</i>	
Biomechanical Analysis of Facet Joint Slippage of Lumbosacral Joints under Static Loadings.....	1142
<i>Guo Li-Xin and Zhang Ming</i>	
Biomechanical Human Model of Pilot Operation Posture.....	1146
<i>Song Guoling,Zhuang Damin, and Wanyan Xiaoru</i>	
Brain Functional Networks Analysis and Comparison.....	1151
<i>Zhang Fangfeng,Chen Chunhui, and Jiang Lu</i>	
Calculation Method for Living Vegetation Volume and Vegetation Penetration Volume of 1 to 10 Years' Old Taxus.....	1156
<i>Liangsong Li</i>	
Collision Detection Using a Neurual Computational Model.....	1159
<i>Wang Ling and Yao DeZhong</i>	
Effect of Blood Vessel Locations on HIFU Temperature Field:a simulation study.....	1162
<i>Zhang Ping,Sun Wujun,Zhu Yuanguang,Zhang Xiaojing,Zhang Mizuo, and Jian Xiqi</i>	
Effect of Femoral Head Shape on Mechanical Behaviours of Artificial Hip Joint.....	1166
<i>Han Shuyang and Ge Shirong</i>	

Establishment and Verification of a Non-linear Finite Element Model for Human L4-L5 Lumbar Segment.....	1171
<i>Xiao Zhitao,Wang Liya,Gong He,Gao Jiazi, and Zhang Xizheng</i>	
Evaluation of the Psychological Crisis Situation in Emergency Situations Based on Factor Analysis Neural Network.....	1176
<i>Shan Wei,Zhou Qin,Ye Yang, and Tong Hengqing</i>	
Experimental Study of Vascular Reactivity in the Fingertip: An Infrared Thermography Method.....	1180
<i>Wang Xue and He Ying</i>	
Explicit Modeling Subzero Dehydration of Living Cells.....	1185
<i>He Liqun,Ding Qianzhuang, and Zhang Haifeng</i>	
FEM Analysis of Carbon Nanotube Induced Cell Poration Under Electric Field.....	1189
<i>Liu Dun,Wang Zhigang,Wang Lijun, and Cuschieri Alfred</i>	
Finite Element Modeling of Distraction Osteogenesis for a Maxilla with Severe Cleft Palate.....	1194
<i>Chen Ru,Shi Guangyu,Hou Min, and Zhang Xizhong</i>	
Glomerular Filtration Rate Measurement Based on Multiphasic Helical CT images with Three-compartment Model.....	1199
<i>Li Hong,Cai Qing,Geng Ping,Gong Jianping,Kang Yan, and Liu Jiren</i>	
Hemodynamics Simulation of Intervention for Serial Saccular Aneurysm with Semi-circular Section Stent.....	1204
<i>Zhang Hongbin,Zeng Kun,Zhang Yun, and Qiao Aike</i>	
How does Brain Process Favorable Feedback with Low Possibility: An ERP Research.....	1209
<i>Yu Fen,Xu Xiaoyong, and Shi Jiannong</i>	
Mechanical Properties in the Ovariectomized Rat Model of Osteoporosis After Continuous and Intermittent Vibration.....	1214
<i>Sun Dahui,Zhao Yi,Tan Lei ,Zhu Dong ,Gao Jiazi, and Zhang Xizheng</i>	
Modeling of the Interaction between Intracranial Pressure and Cerebral Blood Flow.....	1217
<i>Qiu Lijun,Xu Liwei, and Wang Yan</i>	
Modeling of the Phototransduction Cascade in Vertebrate Rod Photoreceptor.....	1221
<i>Lu Lei,Lei Bo,Guo Ya, and Tan Jinglu</i>	
Morphometry in the Ovariectomized Rat Model of Osteoporosis After Continuous and Intermittent Vibration.....	1229
<i>Zhu Dong,Huang Xu,Ma Renshi,Sun Dahui,Gao Jiazi, and Zhang Xizheng</i>	

Numerical Simulation of Moxibustion Therapy Based on Simplified Heat Transfer Model.....	1232
<i>Chen Zhihong,Jiang Guotai, and Huang Chunquan</i>	
Pectus Excavatum Nuss Orthopedic Finite Element Simulation.....	1236
<i>Yanbin WEI,Deqiang SUN,Peng LIU, and Ya GAO</i>	
Potential Therapeutic Actions of Hypothermia: Finite-element Simulation of Human skull Deformation with Hypothermia Treatment.....	1240
<i>Yue Xianfang,Wang Ruonan, Wang Li, and Liu Jiaxin</i>	
Research on Risk Assessment Based on Monte Carlo Simulation and Dose-response Multistage Model.....	1245
<i>Huang Deyin ,Liu Mao ,Zhang Jing , and Wang Yang</i>	
Simulation Based on the Heart Failure and Left Ventricular Assist Devices of the Circulatory System.....	1251
<i>Han Shanshan,Gao Tianxin,Peng Yuhua, and Tang Xiaoying</i>	
Simulation Study of Neural Damage Induced by Different Stimulus Waveforms.....	1256
<i>Sun Chen,Zhang Xu,Ren Zhaohui,Dong Qian, and Cui Nan</i>	
Study of Dose Enhancement Effects in the Vicinity of High Z Atoms with Geant4 Monte Carlo Simulation.....	1260
<i>Huang Ke,Yan Kaiguo, and Yu Yan</i>	
Study on Methods of Constructing Three-dimensional Model for the Femur.....	1265
<i>Li Zhixiang and Ma Chao</i>	
The Application of Artificial Neural Network in the forecasting on Incidence of a Disease.....	1269
<i>Ma Yu-xia and Wang Shi-gong</i>	
The Researches of Wavelet Transform for the Sleep Apnea Syndrome through Snoring Analysis.....	1273
<i>Yinhong Zhang and QuanluLi</i>	
The stability and Hopf bifurcation for a predator-prey system with discrete and distributed delays.....	1277
<i>Shu Zhiping,Xiong Zuoliang, and He Zhifang</i>	
Three Kinds of Segmented Images From the Visible Korean Female Pelvis for Surface Reconstruction.....	1282
<i>Shin Dong Sun,Chung Min Suk, and Park Jin Seo</i>	
Three-dimensional Finite Element Analysis of Maxillary First Molar Orthodontics.....	1287
<i>Liang Wei,Yang Lulu,Wang Shuyu, and Wang Baohua</i>	

Three-Dimensional Geometric Modeling of the Spine Based on Reverse Engineering Technology.....1292
Sun Lining ,Tian Heqiang,Wu Dongmei, and Du Zhijiang

Virtual Medical Model Modification With Laplacian System.....1296
Wang Xiaoling and Zhao Hui

Biomedical Effects of Electromagnetic Radiation

A New Method to Extract the Conductivity Tensor of Brain Inner Tissues.....1300
Wu Zhanxiong,Zhu Shanan, and He Bin

Effect of Electric Field on Activity Index of Horseradish Peroxidase.....1303
Yang Zhihuai,Wang Miao, and Xu Qiang

Effect of Electric Field on Horseradish Peroxidase Activity and Its Structure.....1307
Xu Qiang and Wang Miao

High Voltage Pulse Generator Based on Marx Circuit and Its Application for Sterilization.....1310
Yang Zikang,Xiong Lan,Ye Xiaojie,Long Bo,Xi Zhaojun, and He Wei

Strengthen Effects of the Magnetic Stimulation on the Rat Heartbeat.....1315
Hongwei Lei, Yenan Tian,Dan Yang, and Xu Wang

The Design and Experimental Research of High-Power and High-Frequency Electromagnetic Anti-scaling System.....1318
Xi Zhaojun,Xiong Lan,Gao Biao,Cheng Chenlu,Lai Quan,He Wei

The Review of Electromagnetic Pollution in High-voltage Power Systems.....1322
Guo Yinjing,Wang Ting, Li Diantao,Huang Huan, and Yang Hongqian

Electrotherapy and Radiotherapy(I)

A Multi-Objective Particle Swarm Algorithm for the Optimization of IMRT Inverse Planning.....1327
Li Guoli and Cao Dongzhi

A Study Of Dose Calculation Based On Collapsed Cone Convolution Algorithm.....1331
Zhou Zhengdong and Song Wei

CT Image Fusion In The Optimization Of Replanning During The Course Of 3-dimensional Conformal Radiotherapy or Non-small-cell Lung Cancer.....1336
Xu XiMing,Deng JunJian,Guo HongTing,Xiang Miao,Li ChangHu,Xu LiMing,Ge Wei,Yuan GuangJin, Li QianWen, and Shan ShunLin

Effect of Respiration on The Radiation Dose Distribution Within Target Volume in Radiotherapy.....	1340
<i>Xu Xiao,Zhao Lujun,Wang Keqiang, and He Fangfang</i>	
Endostar Down-regulates HIF-1 and VEGF Expression and Enhances the Radioresponse of Lung Cancer.....	1344
<i>Ge Wei ,Zhang Ling,Hu Ke,Zhang YanYan,Li ChangHu,He Du,Zhao ZhenYu,Zhang JinZhong, Deng JunJian, and Xu XiMing</i>	
Introducing a Complementary Treatment Planning Software for GZP6 Brachytherapy System.....	1350
<i>Sanaz Hariri, Alireza Kamali Asl</i>	
Relationship Between Apparent Elastic Modulus and Microstructural Parameters of Senile Vertebral Trabecular Bone.....	1353
<i>Gong He,Zhu Dong,Xiao Zhitao,Zhang Xizheng, and Zhang Ming</i>	

Author Index

2010 3rd International Conference on Biomedical Engineering and Informatics

(BMEI 2010)

**Yantai, China
16-18 October 2010**

**Volume 4
Pages 1357-1783**



**IEEE Catalog Number: CFP1093D-PRT
ISBN: 978-1-4244-6495-1**

2010 3rd International Conference on Biomedical Engineering and Informatics

BMEI 2010 Table of Contents Volume - 4

Preface	iii
Keynote speakers	iv
Invited speakers	vi
Organizing Committee	ix
Program Committee	x
Reviewers	xii

Electrotherapy and Radiotherapy (II)

Review of Tumor Hyperthermia Technique in Biomedical Engineering Frontier.....	1357
<i>Ma Guojun and Jiang Guotai</i>	
The Study and Implementation of Dose Calculation Method in OUR-Body Gamma Knife.....	1360
<i>Chen Hongchu ,Wang Xiaoming ,Wu Junsheng, and Luo Shuyan</i>	
Whole-field Intensity-modulated Radiation Therapy (IMRT) Combined With Replanning Split-field IMRT For Nasopharyngeal Carcinoma.....	1364
<i>Yuan GuangJin,Li QianWen,Shan ShunLin,Li ChangHu,Xu LiMing, and Xu XiMing</i>	

Biomedical Instrumentation, Devices, Sensors, Artificial Organs, and Nano Technologies

A Comparison of Instrumentation Amplifiers in Bioelectric Acquisition System.....	1369
<i>Qi Yixiang,Wei Lin, and Wang Haiying</i>	
A Data Acquisition System Design for Solid-State Nanopore Biosensor.....	1373
<i>Cai Zhihu,Wu Hongwen, Wang Xiaojuan,Zhang Yan,Li Xin, and Liu Quanjun</i>	
A Design of Noninvasive Tester of Human Arterial Oxygen Saturation.....	1376
<i>Wang Yongqing,Zhang Zhipeng, Wang Hongrui,Liu Xiuling, and Sun Rongxia</i>	

A Development of Pillow for Detection and Restraining of Snoring.....	1381
<i>Wei Ran,Li Xing,Kim Hee Sun,Im Jae Joong, and Kim Hyun Jeong</i>	
A multimodal sono-contrast NIR spectroscopy system for breast cancer diagnosis: system design and Safety Considerations.....	1386
<i>Yan Kaiguo ,Huang Ke ,Podder Tarun,Liao Lydia, and Yu Yan</i>	
A New Transcranial Magnetic Stimulation Coil Design to Improve the Focality.....	1391
<i>Ai Qingyao,Li Jiangtao,Li Meng,Jiang Wei, and Wang Bo</i>	
A Novel Acne Treatment System Design Based on Hyperthermia.....	1396
<i>Zhuo Zihan,Feng Li,Yang Fan,Zhang Xiaodong,Wang Xiaowen, and Tang Jintian</i>	
A Novel Detector for Chromatography and Estradiol Immune Sensor Based on Surface Plasma Resonance.....	1401
<i>Huibin Chen,Xiaoping Wang,Hongwei Wu , and Shuyue Zhan</i>	
A Novel FPGA Based Platform for Ultrasound Power Measurement.....	1405
<i>Muttakin Imamul,Supriyanto Eko,Yeo Kee Jiar,Ariffin Ismail, and Yeap Sin Yu</i>	
A Rotating-Magnet Based Wireless Electrical Power Transfer for Biomedical Implants.....	1409
<i>Jiang Hao ,Zhang Jun Min,Zhou Shi Yu,Liou Shy Sheng, and Shahnasser Hamid</i>	
A Super Low Power MICS Band Receiver Front-End Down Converter on 65 nm CMOS.....	1412
<i>J. Yang, M. Fu, E. Skafidas, N. Tran, S. Bai, I. Mareels, D. C. Ng and M. Halpern</i>	
An Improved Speech Coding Strategy for Cochlear Implants.....	1416
<i>LIU Hongyun,WANG Weidong,LIU Guangrong, and ZHANG Zhengbo</i>	
An Integrated Auto-focusing System for Biomedical Digital Microscope.....	1420
<i>He Gang,Li Jinchuan,Huang Xuejin, and Zou Yuanwen</i>	
AOTF based Hyperspectral Tongue Imaging System and Its Applications in Computer-aided Tongue Disease Diagnosis.....	1424
<i>Li Qingli,Wang Yiting,Liu Hongying, and Sun Zhen</i>	
Bio-electric Measurement System Based On FPGA.....	1428
<i>Zhou Hong,Zou Yuanwen, and Li Jinchuan</i>	
Biofilm detection by the impedance method.....	1432
<i>Zikmund Ales,Ripka Pavel,Krasny Libor,Judl Tobias, and Jahoda David</i>	
Calibration and Error Analysis of Surgical Instrument Based on Stereo Camera.....	1435
<i>Cao Li,Zhang Yong,Wei Jun,Hu Yan, and Liu Da</i>	
Computer-controlled Olfactometer for Quantitative Study of Odor Concentration Measurement.....	1440
<i>Liu Weiling,Bao Jingling ,Zou Kehua,Li Jianchang,Wang Liyuan, and Xu Yan</i>	

Design and Development of a New Endo Surgical/Biomedical Surgical Instrument.....	1444
<i>Li Jeremy (Zheng)</i>	
Design and Implementation of Integrated Front-end Readout Circuit for Linear-Array Biosensors with Chopper-Stabilized Operational Amplifier.....	1447
<i>SunTai-Ping, Shieh Hsiu-Li, Tang Yi-Ching, Tsai Chun-Lang, Huang Hsin-Wei, Liu Wei-Hao, LiuChia-Ming, Chang Jen-Wei, Li Jia-Hao, and Ching Congo Tak-Shing</i>	
Design of A High-Sensitivity, Low-Power Instrument for Chlorophyll A Measurements.....	1450
<i>Yang Yi-min, Lou Kai-kai, Zhou Le-chuan, and Ye Shu-ming</i>	
Design of a Novel High Resolution Holography Concave Grating Spectroscopy for Tongue Coating Analyzer.....	1455
<i>Ren Zhong ,Liu Guodong ,Dai Longmin ,Huang Zhen ,and Zeng Lvming</i>	
Design of a Portable Insulin Syringe Based on MSP430 MCU.....	1459
<i>Zhao Wenrui, Wang Qi, Zhan Qingbo, Zhuang Jianjun, Ning Xinbao, and Yin Jing</i>	
Design of medical image processing system for water-jet debriding apparatus based on ADSP-BF561..	1463
<i>Guo Xin and Zhang Xizheng</i>	
Designing a piezoelectric stack for incus driving actuator using finite element method.....	1468
<i>Liu Houguang, Tian Jiabin, and Rao Zhushi</i>	
DETECTION OF SPACE CONFUSION OF PEOPLE WITH ALZHEIMER DISEASE.....	1473
<i>LARAB Ali, Bastide Rémi, and Rigaud Bernard</i>	
Effect of Fiducial Configuration on Target Registration Error in Image-Guided Surgery-A Experiment Study.....	1477
<i>Zhang Wenbin, Wang Chenhao, Shen Guofang, and Liu Yuncai</i>	
Fabrication Of Single-Walled Carbon Nanotubes(SWNTs) Field-Effect Transistor (FET) Biosensor.....	1482
<i>Yang Danna, Wang Lin, Zhao Qiang, and Li Sai</i>	
Fluidic assembly of single-walled carbon nanotubes on SiO_2/Si substrates.....	1486
<i>Wang Lin, Yang Danna, Zhao Qiang, and Li Sai</i>	
FPGA-based Floating-Point Data Acquisition System with Automatic-Gain-Control and Peak-Detection for Multi-channel Electrochemical Measurement.....	1489
<i>Chen Xuhai and Du Min</i>	
Functional Design of Straw Hat-like Branch Endovascular Graft.....	1494
<i>Wang Fujun, Zhang Lei, Wang Lu, Li Bin, Li Cong, Yang Jinru, Xie Zulan, Wang Poxue, Li Yuling, and Jing Zaiping</i>	
Hardware Acceleration for Motion Tracking System Used in Image-Guided Surgery.....	1498
<i>Dang Xiao, Li Wenjun, Ding Hui, and Wang Guangzhi</i>	

Head Mouse System Based On Gyro- And Opto- Sensors.....	1503
<i>Kim Soochan,Park Minje,Anumas Sasiporn, and Yoo Jaeha</i>	
Immunoassay by Hydride Generation-Atomic Fluorescence Spectrometer Using Arsenic Absorbed Fe ₃ O ₄ @Au Nanoparticles as Label.....	1507
<i>JIN Hai-juan,HOU Jian-guo,LI Tian-hua, and GAN Ning</i>	
In vitro experimental investigation on the key parameters for the embolism therapy using the magnetic nanoparticles.....	1511
<i>Qi Shouliang,Feng Jie,Zhang Jingshu,Li Jianhua, and Li-ling Jesse</i>	
Investigation on Applying Passive Magnetic Bearings to Impeller Left Ventricular Assist Devices(LVAD)	1516
<i>Qian Kunxi,Xu Zihao, and Wang Hao</i>	
Medical Ultrasonic Atomizer Design Parameters Analysis.....	1519
<i>Zhang Zhengguang, and Cai Le-cai</i>	
Microwave and Millimeter Wave Nondestructive Measurement in Biomedical Engineering.....	1523
<i>Jin Li and Zhao Qingling</i>	
Multiple SNPs Genotyping by Ligation of Universal Probes on 3D DNA Microarray.....	1528
<i>Ma Jie,Ning Sheng, and Xiao Pengfeng</i>	
Non-invasive Detection System Design for Blood Glucose Based on Optical Rotation Properties.....	1532
<i>Liu Shengping,Li Ersong, and Zhou Qi</i>	
Numerical Analysis and Hemolysis Prediction in an Implantable Aortic Valve-pump.....	1536
<i>Qian Kunxi,Wu Qinlin, and Wang Fangqun</i>	
One Novel Composite Nano-Particles Membrane Modified Amperometric Immunosensor for Escherichia Coli in Polluted Waters.....	1540
<i>Wu Yuanzhao ,Hu Futao ,Gan Ning ,Li Tianhua , and Gao Lijuan</i>	
Optimization of Electric Field Distribution of Multichannel Transcranial Magnetic Stimulation Based on Genetic Algorithm.....	1544
<i>Cao Xinrong,Cai Dongyang,Zhang Xiaodong,Liu Ruiting, and Tang Jintian</i>	
Parameter Optimization and Performance of Backwashing in Biological Aerated Filters.....	1548
<i>Qiu Liping,Wang Guangwei,Zhang Shoubin,Chen Jingying, and Liu Yongzheng</i>	
Portable Surface Plasmon Resonance Instrument based on a Monolithic Scanner Chip.....	1553
<i>Cai Haoyuan ,Li Hui ,Zhang Lulu ,Chen Xing , and Cui Dafu</i>	
Principles and Design of Infrared Gas Concentration Detection Device.....	1556
<i>Yu Chuang,Lin Zhe , and Yu Yang</i>	

Rapid Quantitative Image Analysis of hCG by Gold Immunochromatographic Assay and Genetic Fast FCM Algorithm.....	1560
<i>Zeng Nianyin,Li Yurong, and Du Min</i>	
Repeat Burst for Timing Code in Excitatory Neuronal Network on Multi-Electrode Array.....	1565
<i>Li Xiangning,Pu Jiangbo,Chen Wenjuan,Zhou Wei,Gong Hui, and Luo Qingming</i>	
Research of a Pocket Device for Rapid Combined Test of Biomedical Samples.....	1569
<i>Yicai Ma</i>	
Research on the Urease Biosensor with PPy Material as Carrier and Sensitive Membrane.....	1574
<i>Wang Zumin and Gao Junchi.</i>	
Semi-automated Tissue Microarrays Maker.....	1577
<i>Zhou Huixing,Liang Wenyu,Tan Kok Kiong,Li Yiqiang, and Xing Lianguo</i>	
Semiconductor Laser-based Design of Concentration Sensor for Dry Salt Aerosol.....	1582
<i>Dan Han,Ping He,Changjin Yue, and Jikun Wang</i>	
Sensitivity Analysis of an Implantable LCBased Passive Sensor.....	1586
Jiang Hao,Lan Di,Shahnasser Hamid, and Roy Shuvo	
Simulation and Experimental Study of Temprature Lag Time for Polymerase Chain Reaction Instrument.....	1591
<i>Huang Jing,Chen Zhangwei,Yao Yinghao,Liu Juanrong</i>	
Study on Diameter of Nanopore with Focus Ion Beam.....	1595
<i>Zhang Yan,Liu Liping,Xuan Yang,Liu Quanjun</i>	
Study on Intensity-modulated Surface Plasmon Resonance Array Sensor Based on Polarization Control.....	1599
<i>Boshu Sun,Xiaoping Wang,Zihao Huang</i>	
Studying Single Cells with Fiber Back-Scattering Confocal Micro-Spectrum.....	1603
<i>Wang Cheng,Ma Junling,Guo Xudong</i>	
Temperature Dependence of Ionic Current in Solid-State Nanopore.....	1607
<i>Xin Li,Yucheng Wang,Feng Sun,Zhihu Cai,Yan Zhang,Quanjun Liu</i>	
The Design of Plantar Pressure Testing Device for Lower Limb Rehabilitation.....	1610
<i>Xu Xiulin,Zou Renling,Wang Hongmei,Zhao Hongyao</i>	
The Research Of Portable ECG Monitoring System With USB Host Interface.....	1614
<i>Guo Xin,Chen Weijie,Xu Xiaoyun,Li He</i>	
Toward Automatic Measurement and Bionic Control of Rotary Heart Pumps.....	1619
<i>Qian Kunxi,Lu Minfang,Jing Teng,Li Lan</i>	

Under Rolling Loads Preliminary Research on Solute Transport in Articular Cartilage.....	1624
<i>Zhao Dan,Zhang Chunqiu,Fan Zhenmin,Gao Junxia,Jin Lipin,Jiang Kexue</i>	

Biomedical Materials and Tissue Engineering

A Novel 3-dimensional Cell Culture System for Embryoid bodies' Formation.....	1627
<i>ZOU Xiang-Hui ,WU Yun-Ying,ZHUANG Dong-Hong ,ZHA Guang-Cai ,SAITO Nagahiro, and TAKAI Osamu</i>	
Amniotic Membrane Loaded with Bone Marrow Mesenchymal Stem Cells Facilitates the Healing of Deep Burn Wound.....	1633
<i>Liu Dewu,Xiong Honglan,Ning Pu,Chen Jianping, and Lan Wei</i>	
Antibody immobilization for biosensing on gold-coated magnetite nanoparticles surface.....	1636
<i>He Quanguo,Zeng Lei, and Wu Zhaozhi</i>	
Biocompatibility and Bioactivity of Hydroxyapatite Whiskers Reinforced bis-GMA based Composites....	1640
<i>Zhang Hongquan,Zhang Ming,Shen Yuhui,Pan Haobo,Zhang Kuibo, and W. Lu William</i>	
Characterization of an Novel Extracellular Biopolymer BC11 by Scanning Electron Microscopy and FT-IR Spectroscopy and Its Use for Lead Removal.....	1645
<i>Mao Yanli , Xiao Xiaocun,Lu Zhipeng , Luo Shitian,Lv Xiaolin , and Liu Weifeng</i>	
Characterization of Chitosan-Hyaluronic Acid Blended Membranes and Their Biocompatibility with Keratocytes.....	1650
<i>Yao Zi-Ang and Wu Hai-Ge</i>	
Contributions of Intermittent Cyclic Compression to Proteoglycans Synthesis and Mechanical Properties of Knee Articular Cartilaginous Tissue Formed in Vitro.....	1655
<i>Li Xiaona,Dong Jiangfeng,Liu Chengxing,Wang Xiaojun,An Meiwen, and Chen Weiyi</i>	
Derivation of oocyte-like cells from mouse embryonic stem cells.....	1659
<i>Hu Yue ,Pan Shaohui,Wang Jing ,Zhang Shanshan,Wang Long , and Hua Jinlian</i>	
Determination of Thermal Conductivities of Biological Tissue Protein.....	1664
<i>Zhang Min,Chen Jianhua,Che Zhenhua,Lu Jiahua,Zhong Zhiyou,Yang Le, and Zhao Huizhong</i>	
Distinct Tissue Responses to Porous Silk Fibroin Scaffolds (PSFSs) and Polyvinyl Alcohol (PVA) Sponges in Vivo.....	1668
<i>Guan Guoping,Bai Lun,Zuo Baoqi,Li Mingzhong,Wu Zhengyu,Wang Lu, and Li Yonglin</i>	
Expression of Telomerase Reverse Transcriptase Gene in Human Epidermal Stem Cells and its Significance.....	1673
<i>Liu Dewu,Wang Lianqun,Ning Pu ,Lan Wei, and Huang Peixing</i>	
Fabrication and surface modification of hydroxyapatite coatings.....	1677
<i>Huang Jin-Cong and Wang Zhou-Cheng</i>	

Fabrication of Glucose Biosensor Based on One-step Electrodeposited GOD/TiSBA-15/CHIT Composite.....	1682
<i>Liu Yan ,Liu Zhancho ,Wang Kun ,Xie Jimin, and Yan Yongsheng</i>	
Formulation optimization for high drug loading colonic drug delivery carrier.....	1686
<i>Wang Yichao,Li Puwang,Peng Zheng,Luo Yongyue, and Kong Lingxue</i>	
In Vitro Anti-hepatitis B Virus Activity of Konjac Oligo-glucomannan Sulfate.....	1690
<i>Huang Hao,Yang Zhonghua,Wang Guanghui, and Chen Jun</i>	
Insulin-Secreting Cells Differentiation Derived Human Embryonic Germ Cells.....	1695
<i>Hua Jinlian and Dou Zhongying</i>	
Intracellular survival of <i>Vibrio anguillarum</i>	1700
<i>Chen Wenbo,Qin Yingxue, and Yan Qingpi</i>	
Laser Coating of Multi Layer Hydroxyapatite on Titanium Alloy.....	1704
<i>Chen Kai and Jia Yi-en</i>	
Molecular cloning and sequence analysis of the endochitinase from <i>Chaetomium cupreum</i>	1707
<i>Zhang Haiyan,Ji Hongfang,Zhang Lingwen,Wu Xingquan, and Chen Shihua</i>	
Preliminary Investigation on Cell Biocompatibility of Hydrated Bacterial Cellulose.....	1710
<i>Jia Yuanyuan,Tan Renbo,Wang Yan,Lin Qijiang,Shi Yi, and Zhou Yulai</i>	
Preparation and Antibacterial Property Evaluation of TiO_2 /Nature Rubber Nanocomposites.....	1714
<i>Huang Maofang ,Ding Aiwu,Gao Tianming,Lv Mingzhe, and Li Puwang</i>	
Preparation And Cytocompatibility Of Polyaniline/PLCL Conductive Nanofibers.....	1719
<i>Xu Peng,Hussain A.Mohammed ,Xu Xiaoyi,Cui Jiuwei,Li Wei, and Wang Guanjun</i>	
Rosmarinic Acid Attenuates D-galactose Induced Behavior Impairment in Mice and Its Mechanism.....	1723
<i>Zhou Ping,Lu Xiaoling,Hou Jianchun, and Hu Chungang</i>	
Study on Compound Plasticizers to the Property of Biodegradable Material Made by Soy Protein Isolate.....	1727
<i>Chen Fusheng,Hou Hongjiang,Cheng Xiaoli, and Gong Baowen</i>	
Surface modification of titanium with chitosan-heparin multilayers via electrostatic self-assembly technique.....	1731
<i>Deng Zhennan ,Zhang Dafeng,Huang Haoyuan , and Ma Jianfeng</i>	
Synthesis and Characterization of Elastin coated with Hyaluronic acid/Collagen Multilayer Films.....	1736
<i>Wang Yunjie,Chang Decai,Dai Chunli,Jiang Wei,Hou Xin, and Yao Kangde</i>	
Viscoelastic Properties of a Modified Bio-polymers Prepared by Blending Poly(3-hydrobutyrate-co-4-hydrobutyrate) with Chain extenders.....	1739
<i>Li Mei, Li Zhiqiang, and Xu Jun</i>	

Biomedical Robotics and Mechanics (I)

A Virtual sEMG Prosthetic Hand Development System Based on LabVIEW and PCI-1710HG A/D Card.....	1743
WU Zhiyong, NIU Haijun, LI Deyu, PU Fang, and FAN Yubo	
Design of Wireless power management SOC for Active Capsule Endoscope.....	1746
Yao Shun, Gu Xiaofeng, Wang Lei , and Zhang Jinyong	
Haptic Training Method for a Therapy on Upper Limb.....	1750
Jarillo-Silva Alejandro, Omar A. Domínguez-Ramírez, and Parra-Vega Vicente	
Innovative effector design for simulation training in robotic surgery.....	1755
Sun Jianxin, Ci Song, Chien Jung-Hung, Park Shi-Hyun, Suh Irene H. , Oleynikov Dmitry, and Siu Ka-Shun	
Measurement of In-Shoe Plantar Triaxial Stresses in High-Heeled Shoes.....	1760
Cong Yan and zhang Ming	
Modeling Cutting Force of Laparoscopic Scissors.....	1764
Yang T., Xiong L., Zhang J., Yang L., Huang W., Zhou J., Liu J., Su Y., and Chui C. K., S. Chang , and C. L. Teo	
Pose Planning for Robotically Assisted Minimally Invasive Surgery.....	1769
Li Gang, Wu Dongmei, Ma Ruqi, Huang Kai, and Du Zhijiang	
Prototype Active AFO with Ankle Joint Brake for Achilles Tendon Ruptures.....	1775
Yoshizawa Nobuyuki	
Research of Automatic Needle Locating Based on Stereo Visual Servoing.....	1779
Lv Sheng, Zhang Dongwen, and Gu Jia	

Author Index

2010 3rd International Conference on Biomedical Engineering and Informatics

(BMEI 2010)

**Yantai, China
16-18 October 2010**

**Volume 5
Pages 1784-2209**



**IEEE Catalog Number: CFP1093D-PRT
ISBN: 978-1-4244-6495-1**

2010 3rd International Conference on Biomedical Engineering and Informatics

BMEI 2010 Table of Contents Volume - 5

Preface.....	iii
Keynote speakers.....	iv
Invited speakers.....	vi
Organizing Committee.....	ix
Program Committee	x
Reviewers.....	xii

Biomedical Robotics and Mechanics (II)

The Auto-measuring and Analysis for Ultrasound Field Based on a High-precise Robotic System.....	1784
<i>Deng Yun ,Wang Wei ,Liu Dongliang,Liu Baowei ,Shi Yanjun ,and Gao Ping</i>	

Rehabilitation Engineering

A Newly Developed System for Quantitative Evaluation on Hand Sensorimotor Integration Function.....	1789
<i>Liao Lixiang,Hamasaka Jun,Yamazaki Kazunori,Morita Yoshifumi,Ukai Hiroyuki,Komori Kenji, and Sanaka Kouji</i>	
A Wireless EOG-based Human Computer Interface.....	1794
<i>Lin Min and Li Bin</i>	
Analysis of Lower-limb Muscle Activities During Whole body Vibartion with Different Standing Posture...	1797
<i>Ma Chao,Zhang Ming,Tan Cheng,Zhang Chunlin,and Su Wei</i>	
Application of Dynamics Parameter Identification of Limb for Rehabilitation Robot.....	1802
<i>Guo Xiaobo and Yan Yonggang</i>	
Auditory System Rehabilitation - Available Technologies.....	1806
<i>Bento David,Ferreira Stephanie,Magalhães Bruno,Rocha Daniela, and Teixeira João paulo</i>	

Biomechanical Analysis of Large Segmental Bone Repair with Different Fixation Apparatuses.....	1811
<i>Su Zhijian, Chen Zhongzhong, Wei Zheng, and Xia Zhenhong</i>	
Comparative Effects of Different Posterior Tilt Sitting Postures on Buttock Pressure in Children.....	1815
<i>Chen yanni, Wang Jue, Liu Lili, and Li Sujiao</i>	
Development of Rehabilitation Support System for Lower Limbs for Recovery and Quantitative Evaluation of Proprioception.....	1818
<i>Imaizumi Daichi, Yamazaki Kazunori, Morita Yoshifumi, Ukai Hiroyuki, Nagaya Motoki, Hayashi Takahiro, Ito Tadashi, Kayamoto Azusa, Sugiura Kazutoshi, and Sakai Yoshihito</i>	
Effects of Whole Body Vibration on Prevention of Bone Loss in 8-week Tail-suspended Male Rats.....	1823
<i>Tan Cheng, Su Wei, Ma Chao, Li Zhili, Wang Huijuan, Chen Wenjuan, Ke Zheng, and Zhang Ming</i>	
Frequency Spectral Characteristics of Standing Balance with Partial Foot Support.....	1827
<i>He Yan, Pu Fang, Wu Fan, Li Shuyu, Li Deyu, and Fan Yubo</i>	
Individualized Prosthetic Modeling and Morphological Analysis of the Femoral Head.....	1831
<i>Bin Liu, Wen-xin Liang, Hao-jie Li, and Zong-ying Ou</i>	
Lip Feature Fusion in Speech Synthesis System Driven by Visual-speech for Speech Impaired.....	1836
<i>Wang Mengjun and Li Gang</i>	
Real-time Control Signal Extraction Based on Instantaneous Power of Surface Electromyogram.....	1840
<i>Wang Yujue, Wang Bei, and Wang Xingyu</i>	
The Control Simulation of BRHL Based on Diagonal Recurrent Neural Network.....	1844
<i>Xie Hua-Long, Guo Li-Xin, and Zhang Ming</i>	
The Dynamics of Calcium Ion in FCM Model.....	1849
<i>Wang Dan, Qiao Qingli, and Xie Nan</i>	

Clinical Engineering and Surgical Planning

Comparison of Monochrome Liquid Crystal Displays with Different Resolutions for Softcopy Reading of Chest DR Images: an Observe Preference Study.....	1853
<i>Yin Jiandong, Guo Wenli, Guo Qiyong, Su Huiqun, Yu Bing, Wang Xiaoming, Lu Zaiming, and Sha Xianzheng</i>	
Development of a Remote Monitoring System for the Light Source of Endoscope Systems.....	1857
<i>Yun H.K., Kim J.S., Kim J.M., Min K.H., Shin D.I., and Huh S.J.</i>	
Effect of Polymethylmethacrylate Augmentation on Cervical Stability after ACIF: In Vitro Biomechanical Study.....	1860
<i>Chen Chun, Zhao Weidong, Sun Peidong, Zheng Wei, Wu Changfu, Qu Dongbin, and Ouyang Jun</i>	

Employing Rapid Prototyping Biomedical Model to Assist the Surgical Planning of Defect Mandibular Reconstruction.....	1863
<i>Wu Wenzheng, Qin Xingjun, Chen Yadong, Wang Wanshan, and David W. Rosen</i>	
FEM Modeling of Radio Frequency Ablation in the Spinal Column.....	1867
<i>Bien T., Rose G., and Skalej M.</i>	
GPU-Friendly Gallbladder Modeling for Laparoscopic Cholecystectomy Simulation.....	1872
<i>J.Zhang, W.Huang, J.Zhou, J.Qin, B.H.Lee, T.Yang, J.Liu, Y.Su, C.K.Chui, and S.Chang</i>	
Measurement and Analysis of Electroencephalogram (EEG) on Audiovisual Interaction for Early Clinical Detection of Neuropsychological Disorder.....	1877
<i>Yang Jingjing, Li Qi, and Wu Jinglong</i>	
Study on Navigation Path Correction in Neuro-navigation Based on Near Infrared Spectroscopy.....	1881
<i>Zhu Xiaofen and Tao Ling</i>	
Three-dimensional Finite Element Analysis Of The Prosthetic Rehabilitation For Unilateral Maxillary Defect After Free Flap Reconstruction.....	1886
<i>Sun Jian and Jiao Ting</i>	

Wearable and Real-Time Health Monitoring Systems

An Efficient Embedded Hardware for High Accuracy Detection of Epileptic Seizures.....	1889
<i>Mushfiq U.Saleheen, Homa Alemzadeh, Ajay M.Cheriyan, Zbigniew Kalbarczyk, and Ravishankar K.Iyer</i>	
Implementation of a Wireless Pulse Oximeter Based on Wrist Band Sensor.....	1897
<i>Cai Qing, Sun Jinming, Xia Ling, and Zhao Xingqun</i>	
Remote Healthcare Monitor System.....	1901
<i>Shen Xiaobin, Hu Chao, Zeng Jianping, Liu Tundong, and Hu Chao</i>	
Requirement Study of Telemedicine System and Product.....	1906
<i>Zhang Pin , Gao Bo , Yang Weiyi , and Qin Shengfeng</i>	
The Mathematical Simulations based on the Transfer Function of the Waveguide Intra-Body Communication.....	1910
<i>Song Yong, Zhang Kai, Kang Bangzhi, and Hao Qun</i>	
Use of Refined Sample Entropy and Heart Rate Variability to assess the Effects of Wearable Respiratory Biofeedback.....	1915
<i>Guan-Zheng.Liu, Dan.Wu, Guo-Ru.Zhao, Bang-Yu.Huang, Zhan-Yong.Meи, Yan-Wei.Guo, and Lei.Wang</i>	

Mobile and Wireless Technologies in Healthcare Systems

Design and Implementation of the ZigBee-based Pulse Wave Sensor Position System.....	1920
<i>Zhao Hua, Yin Kuixi, and Shao Jianhua.</i>	

- Implementation of Portable Monitor based on Mobile Phone for Music Therapy on Hypertension.....1923
Yu Jian-Ye,Zeng Fan-Er,Zhang Jing-Meng,Li Ye, and Zhang Yuan-Ting

Biomedical Education

- Investigation on Human Characteristic of Relationship between Spatial Working Memory and Controlled Attention for Education.....1927
Gao Yulin,Wu Jinglong, and Zhang Ming

Biomedicine in Industry and Society

- Biological Evaluation of Neoaspergillic Acid, a Pyrazine Hydroxamic Acid Produced by Mixed Cultures of two Marine-derived Mangrove Epiphytic Fungi.....1932
Wan Xueqin,Zhu Feng,Chen Guangying,Li Hongming,Tan Shuyi,Pan Yanqiong, and Hong Yin
- Effect of ethanol extract concentrations of Hei Chou on Calcification of MC3T3-E1 cell.....1936
Ahn Kwang-Sik,Lee Young-Hoon ,Kwon Ha-Jeong ,and Park Yong-Duk
- Effect Of Ratio Of 7S And 11S Globulin On The Properties Of The Mixture For Molded Soybean Protein Materials.....1940
Chen Fusheng,Gong Baowen,Guo Dongquan,Hou Hongjiang,Yang Hongshun,Jiang Chongbin, Gong Xiangzhe ,and Liu Hui
- Extraction of mycelial polysaccharides from submerged-cultured *Cordyceps militaris* (a caterpillar fungus).....1946
Liu Gao-Qiang,Zhang Huai-Yun,Wang Xiao-Ling,Zhou Guo-Ying,Zhao Yan, and Zhang Yong-Guang
- Induction of apoptosis in Human gastric carcinoma cell by Geraniin.....1951
baoqing wang and zhexiong jin
- Partial Deficiency of G6PDH Results in Lower Osmotolerance to Glycerol and Glycerol Biosynthesis of *Candida glycerinogenes*.....1955
Zhang Yongguang,Zhuge Bin,Fang Huiying, and Zhuge Jian
- Research about bovine teeth brightness with using dentifrice slurry including nano-hydroxyapatite.....1958
Hwang Ji-Min ,Kang Jong-Oh ,Park Yong-duk ,and Choi Young-suk
- The Effect of Ethanol on the Growth and Propionic Acid Formation of *Propionibacterium acidipropionici*.....1961
Zhang Yongguang,Liu Yin,Zhang Fan,Zhang Rubing, and Zhu Jianhang
- The Mechanism of β -cyclodextrin on the FF β -Hydroxylation Biotransformation of Steroid.....1964
Shen Yanbing,Ma Bing ,Zheng Yu ,Luo Jianmei ,Zhi Yongrun ,and Wang Min
- The sensitivity of hepatoma cells to total aqueous extract from *Artemisia argyi*.....1968
Yu Xin,Yin Meizhen,wang Jinghui,Lu yuandong,Yu Geshu,Cao Feng,Xiao Anju, and Lu Zheng

Other Topics in Biomedical Engineering

- A New Intelligent Model for Automated Assessment of Elder Gait Change.....1971
Wu Jianning
- A New Way to Evaluate the Loading Bearing on Spinal Posterior Column by Strain Measurement.....1975
Sun Peidong,Zhao Weidong,Chen Chun, and Ouyang Jun
- A two-phase design for estimating the effective window of pharmaceutical response.....1977
Wang Dianpeng and Tian Yubin
- Anti-oxidative and Anti-aging Activities of Collagen Hydrolysate.....1981
Liu Chengchu ,Peng Dexiang ,Yang Jingya ,Li Yingsen, and Li Jiale
- Application of Evidence Theory in Radiation Oncology Outcome Analysis.....1985
Xiao Ying,Cui Yunfeng,Chen Wenzhou,Yu Yan, Galvin James, and M. Yousuff Hussaini
- AUC Confidence Bounds for Performance Evaluation of Brain-Computer Interface.....1988
HAMADICHAREF Brahim
- Biosorption Characteristics of *Bacillus cereus* B-11 Biomass for Removal of Ni(II) Ions from Aqueous Solution.....1992
Zhang Kui ,Wan Yatao,Shi Juncao, and Miao Yi
- Biotransformation of digoxigenin by Arthrobacter Simplex TCCC 11037.....1997
Liu Zengbing,Sun Hua,Zheng Yu ,He Chaojun ,Fu Yuwan ,and Wang Min
- CHRNA5 Variants Related to Nicotine Sensitivity in Lung Cancer in Vitro.....2001
Sun Haiji,An Liguozhao Yun,Ma Xiaoli,Wang Yunshan,Jia Yanfei,Zheng Yan, and Xiao Dongjie
- Cortical Synchrony Change under Mental Stress due to Time Pressure.....2004
Yang Qi,Jiang Dineng,Sun Junfeng, and Tong Shanbao
- Detection and Control on Microorganisms in Jet Fuel.....2008
cui yanyu,chu xiao, and shi bo
- Development and Preliminary Application of TaqMan Fluorescence Quantitative RT-PCR Assay for Detection of Porcine Sapovirus.....2012
wang zhichao ,Hua Xiuguo,Chen Yan,Cui Li ,wang peng, and li weiqi
- Dynamic Optical Tracking System of ESR Based on ATmega128L.....2017
Yang Fang,Hang Heping,Shen Jinhui,Song Juan,Gong Zhixia, and Zhang Bo
- Effect of Hesperidin Extraction on Cell Proliferation and Apoptosis of Alzheimer's Disease Induced by $\text{A}\beta_{25-35}$2020
Luo Xiaoting,Huang Qin,Li Shumei,Li Sisi,Xiong Liang, and Dong Minghua

Effect of Hesperidin Extraction on Cell Proliferation and Apoptosis of CNE-2Z Cells.....	2024
<i>Li Shumei,Luo Xiaoting,Li Sisi,Dong Minhua, and Xiong Liang</i>	
Effect of magnetic field on blood flow and heat transfer through a stenosed artery.....	2028
<i>Li Jiangye and Huang Hulin</i>	
Effects of pH and Temperature on Antibacterial Activity of Silver Nanoparticles.....	2033
<i>Qu Feng,Xu Hengyi,Wei Hua,Lai Weihua,Xiong Yonghua,Xu Feng , Zoraida P.Aguilar,Xu Hong, and Y.Andrew Wang</i>	
Enrichment of Nicotine in Human Plasma and Urine with Ionic Liquid based Liquid Phase Microextraction.....	2038
<i>Lin Hailu,Yan Hong, and Luo Mingbiao</i>	
Expression and Analysis of Mycobacterium bovis mpb63-64 Fusion Gene in Escherichia coli.....	2041
<i>Ren Fei,Wang Chunfang,Li Lulu,Liu Xinyu,Jiang Xiuyun,Liu Lei,Li Bingjie, and Ning Haoran</i>	
Expression of a chitinase gene from Chaetomium cupreum in Saccharomyces cerevisiae.....	2045
<i>Zhang Haiyan,Ji Hongfang, and Zhang Lingwen</i>	
Extraction and Identification of Group B Soybean Saponins Based on Adsorption Chromatography and HPLC-MS.....	2049
<i>Tian Jing,Fu Cuicui,Xu Longquan, and Lu Manman</i>	
Growth and Extracellular Polysaccharides Production of Nostoc flagelliforme Cells in Mixotrophic Culture.....	2052
<i>Yu hai-feng,Dong Yong-sheng, and Jia Shi-ru</i>	
Headspace Solid-Phase Microextraction Analysis of Volatile Compounds in Hawthorn Vinegars Fermented by two Strains of Acetobacter.....	2057
<i>Zheng Yu,Liu Hongxiang,Zhang Keping, and Wang Min</i>	
iBrowse: Software for Low Vision to Access Internet.....	2062
<i>Xiao Guobei,Xu Guotong, and Lu Jianwei</i>	
In Vivo Animal Experimental Research of Magnetic Nanoparticles Influence on Pulse Wave.....	2067
<i>Yao Yupeng,Qi Shouliang,Zhang Jingshu,Song Bo,Feng Cong, and Xu Lisheng</i>	
Induction of P53 Genes in Human Hepatoma Cells by Geraniin.....	2071
<i>zhexiong jin and baoqing wang</i>	
Management System Process Modeling Based on Petri Nets and WF-Net.....	2075
<i>Cai Yunpeng</i>	
Mecamylamine Affects Cell Proliferation and Adhesion of Lung Cancer in Vitro.....	2078
<i>Ma Xiaoli,Zhao Yun,Wang Yunshan,Zhang Xiuping,Zhou Qian,Sun Haiji, An Liguo, and Zhang Xueping</i>	

Preliminary Study on Early Detection Technology of Lung Cancer based on Surface-Enhanced Raman Spectroscopy.....	2081
<i>Wang Yan,Sun Shuang,Qu Dian,Chen Anyu,Cui Zijian,Yao Yulu,Jiao Yi,Guo Xun, and Liu Chunwei</i>	
Preparation of Low-molecular Peptides by Enzyme Autolysis of Paphia Undulate.....	2085
<i>Chen Xin,Chen Xiaogang,Zhou Debo,Sun Huili, and Chen Hua</i>	
Reduction Arithmetic for Power Line Interference from ECG Based on Estimating Sinusoidal Parameters.....	2089
<i>Hu Xiao,Xiao Zhong, and Liu Changhong</i>	
Response Surface Optimization for Zooplankton Inactivation with hydrogen peroxide.....	2093
<i>Lin Tao,Chen Wei, and Wang Zhiliang</i>	
Simulation Research of Microwave Automatic Clutter-Cancellation in Life-Detection Radar.....	2098
<i>Zhang Yang,Li Zhao,Jiao Teng,Lv Hao, and Wang Jianqi</i>	
Site-Site Wireless Power Transmission for Medical Endoscopes.....	2101
<i>Hou Peng ,Cheng Yu-Hua ,Jia Meng-Jun ,Feng Liang, and Ding Qi-Yuan</i>	
Statistical Optimization of Microwave-assisted Astaxanthin Extraction from Phaffia rhodozym.....	2104
<i>Zhu Chuanhe,Han Wei,Chen Zhao, and Han Ziqiang</i>	
Study on Noise to Enhance the Fine-motor of Human Hands.....	2110
<i>Liu Jun,Gao Tianyun, and Ai Lei</i>	
Study on One-Direction Bendable Articulated Needle.....	2114
<i>Wang Yizhong ,Liu Chengjie ,Chen Yonghua,Huang Huafang ,Zhang Rui , and Hu Yong</i>	
Study on the Characterization of a Potential Thermostable β -Galactosidase from <i>Thermus thermophilus</i> HB27.....	2118
<i>Li Yan,Yao Tianran,Wei Miao,Yan Ming,Hao Ning, and Xu Lin</i>	
The effect of square wave stretching on proliferation of lung adenocarcinoma cells and squamous carcinoma of tongue cells.....	2122
<i>Qu Hua and Gao Peng</i>	
The Effects of Button Arrangement on Evaluations In interactive Genetic Algorithms.....	2125
<i>Hiroyasu Tomoyuki,Yoneda Yuusuke,Tanaka Misato,Sasaki Yasunari, and Yokouchi Hisatake</i>	
The Influence of External Factors on biomass and Salidroside content in hairy roots of <i>Rhodiola sachalinensis</i> induced by Agrobacterium rhizogenes.....	2130
<i>Zhou Xiao-fu ,Wei Xiao-wei ,Zhao Zhuo ,Sun Jing-di,Lv Jie ,Cai Yui, and Xu Hong-wei</i>	
The MMP-2 and TIMP-2 Expression of Sclera and Scleral Fibroblasts after Posterior Sclera Reinforcement Surgery.....	2134
<i>Wang Guohui,Xie Yongfang, and Chen Weiyi</i>	

Toxicity of Crude Oil and Fuel Oil on the Embryonic Development of the Large Yellow Croaker (<i>Larmichthys crocea</i>).....	2138
<i>Shen Anglv, Tang Fenghua, and Shen Xinqiang.</i>	
Using AC Signal and Transimpedance Amplifier Circuit to Build a Glucose Biosensor Model.....	2142
<i>Sun Tai-Ping, Shieh Hsiu-Li, Yeh Wei-Cheng, Tang Yi-Ching, Tsai Chun-Lang, Huang Hsin-Wei, Liu Chia-Ming, Chang Jen-Wei, Li Jia-Hao, and Ching Congo Tak-Shing</i>	

Bioinformatics, Systems Biology, and Medical Informatics

Computational Genomics and Proteomics (I)

A Heuristic Algorithm for Minimum Conflict Individual Haplotyping.....	2145
<i>Bayzid Md. Shamsuzzoha, Alam Md. Maksudul, and Rahman Md. Saidur</i>	
AFLP Runner (AR): A Software For Prediction And Analysis Of AFLP.....	2150
<i>Zhang Meng, Liang Shujian, Huang Lei, Sun Yeqing, Zhou Jian, and Wang Chunli</i>	
Analysis of Gene Co-expression in Arabidopsis Anther.....	2154
<i>jifeng huang, fengli shi, and qingju jiao</i>	
Bioinformatics Analysis and Characteristics of Glycoprotein G Encoded by the Newly Identified Us4 Gene of Duck Enteritis Virus.....	2159
<i>Yang Xiaoyuan, Cheng Anchun, Wang Mingshu, Zhu Dekang, Chen Xiaoyue, Jia Renyong, Luo Qihui, Zhou Yi, and Chen Zhengli</i>	
cDNA, genomic sequence cloning and sequence analysis of ribosomal protein L18A gene(RPL18A)from the Giant Panda (<i>Ailuropoda melanoleuca</i>).....	2165
<i>Su Xiulan, Hou Yiling, Yuan Shibin, Tian Maojie, Sun Bing, Li Jun, Wu Guangfu, Song Yan, and Hou Wanru</i>	
Characterization of Codon Usage Bias in the gl Gene of Duck Enteritis Virus.....	2170
<i>Li Lijuan, Cheng Anchun, Wang Mingshu, Zhang Shunchuan, Zhu Dekang, Jia Renyong, Luo Qihui, Zhou Yi, Chen Zhengli, and Chen Xiaoyue</i>	
Cloning and sequence analysis of ribosomal protein L11 gene (rpL11) from the Ailuropoda melanoleuca.....	2178
<i>Li Jun, Hou Yiling, Tian Maojie, Yuan Shibin, Sun Bing, Su Xiulan, Wu Guangfu, Song Yan, and Hou Wanru</i>	
Clustering of Expressed Sequence Tags with Distance Measure Based on Burrows-Wheeler Transform.....	2183
<i>Ng Keng-Hoong, Phon-Amnuaisuk Somnuk, and Ho Chin-Kuan</i>	
Combining Local Graph Clustering and Similarity Measure For Complex Detection.....	2188
<i>Yu Yang, Lin Lei, Sun Chengjie, Wang Xiaolong, and Wang Xuan</i>	
Distance Conservation of Transcription Regulatory Motifs in <i>Saccharomyces Cerevisiae</i> Promoters.....	2193
<i>Qin Dandan, Lu Jun, Ding Changjiang, Zhang Ying, Ji Meizhen, and Bai Haiyan</i>	

Fast Short Exact Repeats Finding on GPU.....	2197
<i>Sun Weidong,Wang Weiwei, and Ma Zongmin</i>	
Genetic regulatory network analysis for Myoc based on genetical genomics approach.....	2201
<i>Lu Hong,Chen Hui,Chen Hao,Lu Lu, and Guan Huajin</i>	
Genome-Wide Gene-Gene Interaction Analysis of Rheumatoid Arthritis.....	2206
<i>Hua Lin,Zheng Weiyiing,Liu Hong, and Yan Yan</i>	

Author Index

2010 3rd International Conference on Biomedical Engineering and Informatics

(BMEI 2010)

**Yantai, China
16-18 October 2010**

**Volume 6
Pages 2210-2653**



**IEEE Catalog Number: CFP1093D-PRT
ISBN: 978-1-4244-6495-1**

2010 3rd International Conference on Biomedical Engineering and Informatics

BMEI 2010 Table of Contents Volume - 6

Preface.....	iii
Keynote speakers.....	iv
Invited speakers.....	vi
Organizing Committee.....	ix
Program Committee	x
Reviewers.....	xii

Computational Genomics and Proteomics (II)

Identification of Major Responding Proteins of Abnormal Leaf and Flower in Soybean with an Integrative "Omics" Strategy.....	2210
<i>Chen Lei,Xing Guangnan, Zhao Tuanjie , Gai Junyi ,Xu Yingjie, and Liu Xiaoxiang</i>	
Molecular Cloning and Characterization of the Newly Identified gC Gene of Duck Plague Virus.....	2215
<i>Lian Bei ,Xu Chao ,Cheng Anchun ,Wang Mingshu ,Zhu Dekang ,Chen Xiaoyue ,Jia Renyong , Luo Qihui ,Zhou Yi ,and Chen Zhengli</i>	
Molecular Cloning and Sequence Analysis of the Duck Enteritis Virus Us4 Gene.....	2221
<i>Yang Xiaoyuan,Cheng Anchun,Wang Mingshu,Zhu Dekang,Chen Xiaoyue,Jia Renyong, Luo Qihui ,Zhou Yi ,and Chen Zhengli</i>	
Predicting Mouse Transmembrane Protein Types Based on the Increment of Diversity Combined with the Support Vector Machine.....	2226
<i>li fengmin and zhou huanmin</i>	
Study On The Chaotic Characteristics Of Protein Sequences.....	2230
<i>Guan Weihong</i>	
The Analysis of Biological Cell Behaviors Using Bayesian Bidirectional Network Model.....	2235
<i>Zhang Keming,Yang Hua,and Zhang Chongyang</i>	

TVNovo: De Novo Peptide Sequencing for High Resolution LTQ-FT Mass Spectrometry using Virtual Database Searching.....	2240
---	------

Sun Hanchang,Zhang Jiyang,Liu Hui,Zhang Wei,Xu Changming,Ma Haibin, and Xie Hongwei

Applications of Artificial Intelligence, Machine Learning and Data Mining in Bioinformatics and Medical Informatics

A Hierarchical Symptom-Herb Topic Model for Analyzing Traditional Chinese Medicine Clinical Diabetic Data.....	2246
--	------

Zhang Xiaoping,Zhou Xuezhong,Huang Houkuan,Chen Shibo, and Liu Baoyan

A MDP Solution for Traditional Chinese Medicine Treatment Planning.....	2250
---	------

*Feng Qi,Zhou Xuezhong,Huang Houkuan,Yu Jian,Zhang Yin,Tong Xiaolin,Zhang Runshun,
Wang Yinghui, and Liu Baoyan*

A Neural Network To Pulmonary Embolism Aided Diagnosis With A Feature Selection Approach.....	2255
---	------

Tang Lujia, Wang Lina, Pan Shuming ,Su Yi, and Chen Ying

A New Algorithm in Detecting Changepoint in Linear Regression Models.....	2261
---	------

Zhao Hualing,Wu Xiaoxia, and Chen Hanfeng

A New Graph Labelling On Trees.....	2265
-------------------------------------	------

Yao Ming,Yao Bing,Xie Jianming, and Zhang Xiaoxian

An Approach For Prioritizing Disease-related MicroRNAs Based On Genomic Data Integration.....	2270
---	------

Jiang Qinghua,Wang Guohua, and Wang Yadong

An Improved Normalized Signal to Noise Ratio Method for Irrelevant Genes Removing.....	2275
--	------

Du Wei,Wang Yan,Wang DePing,Cao Zhong-Bo,Sun Ying, and Liang Yan-Chun

An Unsupervised Phenotypes and Informative Genes Detection Model with Outlier Consideration.....	2280
--	------

Li Yuan,Zhao Yuhai,Wang Guoren, and Wang Zhanghui

Application Of Protein Hasse Matrix Image To Predict Protein Structural Classes.....	2285
--	------

xiao xuan and xu pei-jie

Apply Rough Set Theory in the Function Group Analysis for Phenolic Amide Compounds.....	2289
---	------

Liu Wei-Ling, Lee Ya-Ting, Wen Kun-Li, and Chen Huo-Cheng

ArraySVG: Chromosome Mapping and Network Visualization of Multi-platform Data.....	2294
--	------

Liu Yu, Zhang Kaitai,Zhang Xinyu, Gao Yanning, and Hu Ying

Association Rule Discovery with Fuzzy Decreasing Support on Syndrome Differentiation and Medication in Coronary Heart Disease	2297
---	------

Yi Weiguo,Duan Jing, and Lu Mingyu

Combination of PSO and AdaBoost algorithm and its application to Multi-Classification prediction of Yeast Protein Localization Sites.....	2302
---	------

Zhang Yuntao and Zhou Changhong

Comparative Study of Ensemble Learning Approaches in the Identification of Disease Mutations.....	2306
<i>Wu Jiaxin,Zhang Wangshu, and Jiang Rui</i>	
Comprehensive Comparison of Classifiers for Metabolic Profiling Analysis.....	2311
<i>Cao Yu,Cui Xirui ,Chen Tianlu ,Su Mingming ,Zhao Aihua ,Wang Xiaoyan ,Ni Yan ,and Jia Wei</i>	
Identification of Secretory Proteins Based on Similarity of amino acid sequences.....	2316
<i>Liu Hui,Liu Xiang, and Yao Yuan</i>	
Microstructure Analysis of SiCp/Al Composites with Ultrasonic Vibration Turning.....	2321
<i>Xueli Cheng and Xiao Ma</i>	
Mining Positive and Negative Weighted Association Rules in Medical Records without User-specified Weights Based on HITS Model.....	2325
<i>Xie Wei and Wu Jing</i>	
Classifying Driving Mental Fatigue Based on Multivariate Autoregressive Models and Kernel Learning Algorithms.....	2330
<i>Zhao Chunlin ,Zheng Chongxun,Zhao Min, and Liu Jianping</i>	
Nonnegative Tensor Factorization for Clustering Genes with Time Series Microarrays from Different Conditions: A Case Study.....	2335
<i>Liu Weixiang,Wang Tianfu, and Chen Siping</i>	
Predicting Flexible Length Linear B-cell Epitopes using Pairwise Sequence Similarity.....	2338
<i>Zhang Wen and Niu Yanqing.</i>	
Prediction of Disease-Resistant Gene in Rice Based on SVM-RFE.....	2343
<i>Ren Yanjiao,Wang Deping,Wang Yan,Zhou Jinbo,Zhang Hanyuan,Zhou You, and Liang Yanchun</i>	
Protein Secondary Structure Prediction: Speeding up Conjugate Gradient Neural Network.....	2347
<i>Elfaki Murtada Khalafallah and Wang jianxin</i>	
Research on TCM Pulse Condition Identification Using Probabilistic Neural Networks.....	2352
<i>Guo Hongxia and Wang Binghe</i>	
Uncovering Disease Regions Using Pseudo Time-Series Trajectories on Clinical Trial Data.....	2356
<i>Li Yuanxi and Tucker Allan.</i>	

Biologically-Inspired Systems

An Ant Colony Optimization for the Network Inference and Parameter Estimation of S-Systems.....	2363
<i>Philip Christian C. Zuniga</i>	
An Improved Ant Colony Clustering Algorithm.....	2368
<i>Jiang Hong,Yu Qingsong, and Gong Yu</i>	

Computational Drug Discovery and Computer-Aided Drug Design

DFT Studies on the Quantitative Structure-activity Relationship of N-(2-chloroethyl)-N'-cyclohexyl-N-nitrosoureas as Anticancer Agents.....2373

Cao Jun,Jin Shubin,Han Bing,Liu Wei,Zhao Lijiao, and Zhong Rugang

Homology Modeling of the Three-dimensional Structure of Bovine Serum Albumin.....2377
lihua Chen,Guohui Liu,Qiang Wang, and Wanguo Hou

Networking Drugs And Diseases In the Context Of Neuro-endocrine-immune System.....2382

Li Yijie,Ma Tao ,Lu Le, and Li Shao

Biological System Dynamics and Simulations

A Theoretical Model on Thermal Hysteresis Activity of Type III Antifreeze Protein.....2387
Liu Junjie and Xie Wenjing

An Eco-epidemiological System with Infected Predator.....2390
Su Min and Hui Cang

Analysis of Drag Reduction Mechanism of the Bionic Microscopic Riblets Surface.....2394
Xu Chao,Wang Jing,Luan Shuguang,Qu Bing, and Jiang Lanyu

Dynamic Assessment of Ecosystem Service Value in Huangfuchuan Basin Based on LUCC.....2399
LI Bo,SUN Tesheng,SONG Xiaoyuan ,and HOU Ying

Factor Analysis of Ecosystem Services Value in Huangfuchuan Basin.....2405
SUN Tesheng,LI Bo ,SONG Xiaoyuan ,HOU Ying, and GUO Huanhuan

Influence of Noise in FHN Model with Varying Parameters.....2410
Deng Bin,Wang Jiang, and Wei Xile

Kinetic Studies on The Interaction Between EGFR and EGF and Its Traditional Chinese Medicine-modulation by Surface Plasmon Resonance.....2415
Dong Guo-Chung and Yao Chun-Hsu

Leaf Mutiscale Variation Algorithm under Feedback Control System.....2418
zeng lingqiu,Zhu Qingsheng,Han Qingwen ,Qu Hongchun, and Lu Zhonghua

Periodic oscillations for a model of gene expression with delay.....2423
Zhuang Kejun and Zhu Hailong

Purification and Characterization of an Adhesion Protein from the Skin Mucus of Paralichthys olivaceus.....2426
Zou Wenzheng,Yan Qingpi,Ji Rongxing, and Qin Yingxue

Study on Motion Modes of Talin Rod Domain..... <i>jiao xiong and chen weiyi</i>	2431
The impact of media coverage to SIRS model..... <i>Cui Jing-an,Song Guohua, and Liu Yiping</i>	2435
Wetlands Spatial-Temporal Evolution Simulation using Multi-Agent System: a Case Study in China..... <i>Yu Huan,He Zhengwei,Pan Xin, and Zhang Shuqing</i>	2438

Telemedicine

A Mobile Phone Based Homecare Management System on the Cloud..... <i>Tang Wei-Tse,Hu Chiu-Ming, and Hsu CHien-Yeh</i>	2442
--	------

Application of Systems Science in Biomedicine

A Study on Seasonal Distribution of Measles in Heping District, Shenyang, from 2001 to 2009..... <i>Guo Haiqiang,Guo Huifang, and Li Yanlin</i>	2446
BioIDMapper: a Cross-referencing and Managing Platform for Biological IDs in R..... <i>Sun Xiaoyong,Lawrence Michael ,Liu Zhaoquan, and Sun Zhongxu</i>	2449

Standards and Ontology in Biomedical Informatics

A New Similarity Measure over Gene Ontology with Application to Protein Subcellular Localization..... <i>Yang Yang</i>	2452
Extracting and Generalising Ontology in Anatomy..... <i>Cai Zhi,Lang Kun, and Chen Jia</i>	2457
The Role of Temperature and Salinity in the Embryonic Development of Striped Goby..... <i>Feng Guangpeng,Zhuang Ping,Zhang Longzhen,Liu Jianyi, and Hou Junli</i>	2462

Synergy between Bioinformatics and Medical Informatics

Co-localization of Heat Shock Protein 72 and CD44v6 in Human Colonic Adenocarcinoma..... <i>Wang Xiaoping,Lin Huanping,Wang Qiaoxia,Bai Jiqing, and Ying Xiaoping</i>	2467
--	------

Evaluation and Benchmarking, e.g., Bio-Statistical and Medical Statistical Methods

A Plea for AUC Confidence Intervals in Diagnosis Models used in Gynecology..... <i>HAMADICHAREF Brahim</i>	2471
---	------

Evaluation of Paternities with less usual Data using Bayesian Networks.....2475
Andrade Marina and Ferreira Manuel Alberto M

Optimal Stopping Rules for Proofreading.....2478
Liao Fei

Applications of Operations Research and Management Science in Medicine and Health Care

Multi-Camera Recognition of People Operating Home Medical Devices.....2481
gao zan,Detyniecki Marcin,chen Ming-yu,Wu Wen,G.Hauptmann Alexander,D.Wactlar Howard, and Cai Anni

Organizational Factors and Safety: the Mediation Effects of Organizational Processes.....2486
Shi Wei and Wang Erping

Personality and Abusive Supervision: A Study on Leadership in the Healthcare Industry in China..... 2489
xu xiaoyong,yu fen, and shi jiannong

Radiology Workflow-Based Monitoring Dashboard in a Heterogeneous Environment.....2494
Zhu Qin,Nie Hongchao,Lu Xudong, and Duan Huilong

Research on the Design of a General Thoracic Surgery Clinical Database System for Evaluating Operation Risk.....2499
Zhang Chence,Shen Yi,Wei Yucheng,Zhang Bingsen, and Kong Qian

The Formation Mechanism Research of Gastrointestinal Disease Based on Marketing Theory.....2503
Chen Jingdong and Han Wei

The Study of The Change of Pressure And Its Relationship With The Temperature Inside The Cup.....2507
Ng Shih-Chau,Guo Heng-Yan,Sun Jia, and Sun Ping-Long

Healthcare Information Systems

Deployment of the NETC@RDS Service: A new step towards a European e-health space.....2511
Pagkalos I.,Kortesis S.,Pangalos G, and Hassapidou M

Level of Detail Navigation and Visualization of Electronic Health Records.....2516
An Jiye,Wu Zhe,Chen Hushan,Lu Xudong, and Duan Huilong

Microbial Biosensors for Formaldehyde.....2520
Cui Jiansheng and Tang Hongyan

The Design of an EHR for Clinical Decision Support.....2525
Xiao Liang ,Cousins Gráinne,Hederman Lucy ,Fahey Tom , and Dimitrov Borislav

The Keyword-based and Semantic-driven Data Matching Approach for Assisting Structuralizing the Textual Clinical Documents.....	2532
--	------

*Chen Chi-Huang,Ping Xiao-Ou,Wang Zi-Jun,Hsieh Sheau-Ling,Chen Li-Chin,Tseng Yi-Ju,
Hsu Ching-Wei, and Lai Feipei*

XML-based Personal Health Record System.....	2536
--	------

Xie Li,Yu Cong,Liu Lei, and Yao Zhihong

Other Topics in Bioinformatics, Systems Biology, and Medical Informatics

5-Azacytidine Induces Chromosome Fragmentation In The Root Tips Of Wheat Carrying The Gametocidal Chromosome 2C.....	2541
--	------

Guo Changhong,Cong Wenwen, and Xu Guohui

A Physical Model of Non-specificity in P-glycoprotein's Selection of Substrates.....	2544
--	------

Sun Zhifeng and Guo Weisheng

Approximation To Largest Graceful Subgraphs With Constrained Conditions.....	2547
--	------

YAO Bing,CHENG Hui,TAO Haixia, and ZHOU Xiangqian

Assessment Of Genotoxicity Of Nitrobenzene Using Vicia-Micronucleus Test.....	2552
---	------

Si Liang ,Guo Changhong,Ma Jun ,Li Rui , and Guo Donglin

Effects of Bound Antifreeze Proteins on Equilibrium Configuration of Ice-Liquid Interface.....	2556
--	------

Liu Junjie and Xie Wenjing

Effects of Low Temperatures on the Fatty Acid Composition of Hepialus jianchuanensis Larvae.....	2560
--	------

Zou Zhiwen,Liu Xin,Wang Jianghai, and Zhang Guren

Establishment of Cell Suspension Cultures and Plant Regeneration in Halophytic Leymus chinensis (Trin.).....	2565
--	------

Sun Yan-Lin and Hong Soon-Kwan

Frequency Distribution of T > C Polymorphisms in the Seed Region of the Chicken Mir-1644 Gene.....	2570
--	------

Zhang Chuan-sheng ,Geng Li-ying,Liu Zheng-zhu,Fu Zhi-xin,Shen Ping, and Du Li-xin

Molecular Cloning and Characterization Analysis of LEF-1 Gene from Inner Mongolia Cashmere Goat.....	2574
--	------

Zhang Tao,Wang Zhigang,Li Bin,Shi Jiejun,Qin Yi, and Liu Dongjun

Network Analysis for Exploring Systems Biology.....	2578
---	------

Chen Xuning and Zhu Weiping

On A Model in Population of Biology.....	2582
--	------

Zhao Changjian

Preparation And Detection Of Egg Yolk Antibody Against Streptococcus Pneumonia.....	2585
<i>Liu Duan,Su Juan,Zhang Kun,Zhao Suqing, and Zhu Wubiao</i>	
Reasons for the Degeneration of Haloxylon ammodendron Population in the Western Part of Gurbantonggut Desert in Mid-Asia.....	2589
<i>SI Lang-ming,LIU Tong,LIU Bin, and LI Lei</i>	
Similarities Of DNA Sequences Based On 3D Chaos Game Representation.....	2594
<i>Huang Hailan and Shi Long</i>	
Species diversity and spatial variation of ephemeral community in the southern part of the Gurbantunggut Desert.....	2598
<i>LIU Zhong-quan,LIU Tong,ZHANG Rong, and CHEN Hui-huang</i>	
Symptom and Syndrome Analysis of Categorial Series, Logical Principles and Forms of Logic.....	2603
<i>Alexeyeva Nina,Alexeyev Andrey,Gracheva Polina,Podkhalyuzina Ekaterina, and Usevich Konstantin</i>	
The Crucial Neuroanatomical Area for Spontaneous Confabulation.....	2607
<i>Yuan Zheng and Yin Wengang</i>	
The Methods of Log-correlation Distance and Mutual Information for Constructing Genome Phylogenetic Tree of Parvoviruses.....	2610
<i>Zhou Li-qian,Bai Ju-min, and Yang Bi-bo</i>	
The study on anti-tumor activity of xinghuayu injection.....	2614
<i>XU Yueqing,Pei Niu, Zhang Lili,Du Ning,Ba Weisong, and Li Juan</i>	

Informatics: Fundamental Technologies Important to Medicine and Biology

Automation and Control (I)

A Long-running Transaction Model of Workflow.....	2618
<i>hu Quanzhou,Zhuang Yi,Liu Jia, and Liu Yi</i>	
Analysis of Impact of Gyroscope Synthetical Error on an Electric-optical Stabilized Control System.....	2623
<i>Jiang Huhai,Wei Qun,Jia Hongguang, and Zhang Xin</i>	
Application Research of Image and Signal Processing Techniques on the Bio-diesel Engine.....	2626
<i>Mei Deqing,Xiao Shumei, and Sun Ping</i>	
Calculation on the Working Situation about Relayed System for Drainage of Large-scale Dive Electric Pump.....	2631
<i>Wang Shunsheng,Gao Chuanchang, and Fei Liangjun</i>	

Consesnsus Algorithm for Robotic Agents Over Packet Dropping Links.....	2636
<i>Srinivasan Seshadhri and Ayyagari Ramakalyan</i>	
Faults Diagnosis for Power Transformer Based on Support Vector Machine.....	2641
<i>Ni Yuanping and Li Junli</i>	
Fuzzy Fusion Approach for Hospital Illness Tracking.....	2645
<i>Lei Xue-mei and Zheng Xue-feng</i>	
Image Acquirement with Bluetooth Technique under Embedded Linux Environment.....	2650
<i>Ni Yuanping and Liu Jing</i>	

Author Index

2010 3rd International Conference on Biomedical Engineering and Informatics

(BMEI 2010)

**Yantai, China
16-18 October 2010**

**Volume 7
Pages 2654-3099**



**IEEE Catalog Number: CFP1093D-PRT
ISBN: 978-1-4244-6495-1**

2010 3rd International Conference on Biomedical Engineering and Informatics

BMEI 2010 Table of Contents Volume - 7

Preface.....	iii
Keynote speakers.....	iv
Invited speakers.....	vi
Organizing Committee.....	x
Program Committee	xi
Reviewers.....	xiii

Automation and Control (II)

Influence of Branch Tunnels on CO Diffusion Simulation of Main Underground Powerhouse Construction Ventilation.....	2654
<i>Hong Kun, Zhou Zhengyin, Wang Xiaoling, and Zhou Shasha</i>	
Model-based Hazard Analysis Method on Automotive Programmable Electronic System.....	2658
<i>Zhang Hongkun, Li Wenjun, and Chen Wei</i>	
Optimal Control Applied to Cholera Model.....	2662
<i>Liao Fei</i>	
Study on Hybrid Power System of Wheeled Crane.....	2667
<i>Zhou Xinmin, Dong Mingwang, and Zhou Dongxiang.</i>	
The Short-term Load Forecasting Using the Kernel Recursive Least-squares Algorithm.....	2673
<i>Liu Chen and Liu Fasheng</i>	

Database Systems

A Continuous Query Processing Approach for Window Semantics in Data Stream System.....	2677
<i>Baoyan Song, Yan Wang, Feng Yuan, and Ge Yu</i>	

A New Twig Query Evaluation for XML Based on Region Encoding.....	2682
<i>Song Ran, Hong Xiaoguang, and Yang Shanyong</i>	
Cerebrovascular Diseases Research Database.....	2687
<i>Včelák Petr, Klečková Jana, and Rohan Vladimír</i>	
MREA: A Relation-Extension Algebra for Processing UML-based Multimedia Queries.....	2692
<i>Wu Zongda, Lu Chenglang, Lu Jianfeng, and Cao Zhongsheng</i>	
Relationship Management of Digital Collections in University Libraries.....	2698
<i>Yuan Run, Wu Hanlu, and Su Geng-sheng</i>	
Research on Information Security Access Model and Its Implementation Strategies.....	2703
<i>Zou Guoliang, Wang Jing, Huang Dongmei, and Jiang LiangJun</i>	
VPRS Based on Similar Relation in Incomplete Information System.....	2707
<i>Sun Shibao, Ding Aiping, Hu Chengxiang</i>	

Computer Security and Privacy

A New Client-Puzzle Based DoS-Resistant Scheme of IEEE 802.11i Wireless Authentication Protocol..	2712
<i>Dong Qingkuan, Gao Lin, and Li Xiaoping</i>	
A Novel Key Agreement Protocol Based on Bilinear Pairing.....	2717
<i>Zhang Weijun, Han Yonghui, and Liu Lulin</i>	
A Principal Component Analysis and Risk Assessment Framework based on Projection Pursuit in Ad Hoc Networks.....	2721
<i>Fu Cai, Ye Jihang, Zhang Li, Zhang Zhang, and Zhang Yunhe</i>	
Dynamics of Multiple Internet Worms.....	2726
<i>Song Lipeng</i>	

Software Engineering

A CMOS OLED Driver with Pre-charge Generation.....	2730
<i>Cai Jun and Ran Feng</i>	
A Semantic Tagging System for Biomedical Articles.....	2733
<i>Jiao Xiantao and Chen Yue</i>	
An Ontology Modeling Methodology in Requirement Analysis.....	2739
<i>Liu YaJun, Gao Lisha, Feng XiaoJie</i>	

Colored Petri net based workflow model mapping.....	2743
<i>Zhu Lianzhang and Shan Xuhui</i>	
Developing Novel Design Patterns in Information Visualization for Mobile Health Systems.....	2748
<i>Huang JianYuan, Li Ye, Zhang JingMeng, and Yu JianYe</i>	
Error-Controlled Computation for Termination of Programs.....	2753
<i>Zhao Shizhong, Feng Ranran, and Zhao Miaoling</i>	
Management Information System of Biological Specimens for Entry-Exit Inspection and Quarantine.....	2757
<i>He Mingzheng, Ji Zhenzhou, Cui Maosheng, Zhang Youcai, Wu Xiaobin, Li Yingnan, and Zheng Chao</i>	
Research and Application of Component Composition Based on Software Architecture.....	2762
<i>Ran Chong-shan and Song Yong</i>	
Study and Improvements for the Real-time Performance of Linux Kernel.....	2766
<i>Xu Hong and Tang Rong</i>	

Computer Architecture

A SoPC-Based Mini VGA Video Capture and Storage System.....	2770
<i>Gao Kun, Cai Junbo, Zhang Long, and Sheng Ren-nong</i>	
Workload-Balancing Schedule with Adaptive Architecture of MPSoCs for Fault Tolerance.....	2775
<i>Zhang Yuping, Hao Zimian, Xu Xianbin, Zhao Wuqing, and Wang Zhuowei</i>	

Distributed Systems

A refined distributed parallel algorithm for the eigenvalue problem of large-scale matrix.....	2780
<i>Zhao Lu, Zhuang Yi, Liu Yi, and Ni Tianquan</i>	
HUST-BioGrid: The Deployment and Evaluation of a Bioinformatics Grid Platform.....	2785
<i>Jiang Wenchao, Dai Qingyun, and Zhou Yanhong</i>	
Improving scheduling of tasks using delay adjust in a heterogenous environment.....	2790
<i>Kang Yan</i>	
Integrated Automation System of Dressing Based on PLC and KingView.....	2795
<i>Zou Jinhui, Xu Jiangchun, Chen Wei, and Huang Songwei</i>	

Graphics and Animation

Air Combat Game and Simulation.....	2799
<i>Fu Li and Yu Meixiang</i>	

Application Of The Virtual Landscape Architecture Geometric Modeling.....	2803
<i>Wang ZhiHong and Qin ZhenNan</i>	
Similarity Measurement Study For Bio-signal Waveform Based On Tunnel Morph.....	2806
<i>Lian Shiliu and Zheng Gang</i>	
Special Effect Simulation in Virtual Battlefield Environment.....	2811
<i>Sun Shaobin, Zhang Renyou, Chen Lu, and Li Dapeng</i>	
 Computer Communications and Networking	
A New Certificateless Self-identifiable Ring Signature Scheme.....	2816
<i>Sang Yongxuan and You Lin</i>	
A Node Robust Enhancing Algorithm Based on Graph Theory.....	2820
<i>Zhu Yanbo and Fu Jianming</i>	
A Quantum Repeater in Infrared Quantum Communication System.....	2824
<i>Liu Yuru, Zhang LuHua, and Zhang Xuehui</i>	
A Stream-based Communication Framework for Network Control System.....	2828
<i>Cheng Lun, Wang Zhongjie, and Huang Xiaoxia</i>	
A Visualization Analysis Tool for DNS Amplification Attack.....	2834
<i>Yu Huiming, Dai Xiangfeng, Baxliey Tom, Yuan Xiaohong, and Bassett Terry</i>	
Bandwidth Enhancement for Transimpedance Amplifier in CMOS Process.....	2839
<i>Han Liang, Yu Mingyan, and Zong Lu</i>	
BGP-Grid: A Distributed BGP Policy Simulation And Evaluation System.....	2843
<i>Li Zhonghui, Wang Jilong, and Tian Bin</i>	
Constructing Semantic Web Services Based On Ontological Fuzzy.....	2849
<i>Yi Wang, and Hong Sheng Xu</i>	
LRP: Line Routing Protocol of Robot-Sensor Networks for Mine Rescue.....	2853
<i>Li Hongchun, Zhao Xiaoguang, Tan Min, and Sun Xiao</i>	
Optimal Distribution for Four-Station TDOA Location System.....	2858
<i>Lei Yan-Ping, Gong Feng-Xun, and Ma Yan-Qiu</i>	
Research on Hierarchical Mobile Wireless Sensor Network Architecture with Mobile Sensor Nodes.....	2863
<i>Chen Xuhui and Yu Peiqiang</i>	
Study of TD-SCDMA Physical Channels Assignment and Power Setting.....	2868
<i>Hou Qun</i>	

Virtual Link Multi-Objective Solution Algorithm for P2P Network.....	2872
<i>Gao Xiao Yan, Jia Qing Shui, and Peng Hu</i>	

Intelligent Systems

A Semantic Method for Coding of ICD Diagnoses.....	2876
<i>Chen Yue and Wang Zhifei</i>	
An Adaptive Genetic Algorithm based on Rough Set Attribute Reduction.....	2880
<i>LIU BingXiang, LIU Feng, and CHENG Xiang</i>	
An analysis for monopoly premium and consumer welfare in the gasoline market of China: Results from A Multi-agent Model.....	2884
<i>Ronggang Cong</i>	
Architectures and Algorithms for Auto-generating Examination Paper System.....	2893
<i>Wang Xiuhui and Wen Junqin</i>	
Bifurcation Analysis in Delayed Feedback Neural Network and Application of Chaotic Control.....	2896
<i>Wang Wenlong and Zhang Chunrui</i>	
Intelligent Logistics Business Process Design.....	2900
<i>Huang Lianjie and Liu Jiangxia</i>	
Learning the affinity measure in real and artificial immune systems.....	2904
<i>Raudys Sarunas, Arasimavicius Justas, and Biziuleviciene Gene</i>	
MCS-PSO Based Risk Programming for Virtual Enterprise.....	2909
<i>Fuqiang LU, Zhongyuan WU, and Cuihua WU</i>	
Method and Application of Acquiring Extension Classification Knowledge.....	2913
<i>Li Xiaomei and Yang Chunyan</i>	
Minimizing the Weighted Number of Early and Tardy Jobs with Bounded Batch.....	2918
<i>Zhao Hongluan, Fu Baibai, Han Guoyong, and Zhao Linsheng</i>	
Modifications of Particle Swarm Optimization for Global Optimization.....	2923
<i>Yang Qin, He Guozhu, and Li Li</i>	
Ontology Inconsistent Problem on Model-based Diagnosis.....	2927
<i>Li Dongmei, Lin Youfang, and Huang Houkuan</i>	
Particle Swarm Optimization Method for Solving Quadratic Eigenvalues.....	2932
<i>Jing-pin Huang and Dun-qian Cao</i>	

Product Reliability Design Knowledge Reasoning Method Based on Rough Sets and Certainty Factors Theory.....	2936
<i>Ren Yi, Kong Leixing, and Fu Zhi</i>	
Representation and Realization of Binary-valued CP-nets in Directed Tree.....	2941
<i>Sun Xuejiao and Liu Jinglei</i>	
Research of Compound Operation Optimization Based on Partheno Genetic Algorithm.....	2945
<i>Liu Wanjun, Huang Yangbo, and Ding Peng</i>	
Research of Mining Effective Weighted Association Rules.....	2949
<i>Yan Lingwei and Yi Weiguo</i>	
Research on Context-based Knowledge Representation in Emergency Domain.....	2953
<i>Huang Weidong, Kong Wei, Tong Zhe, and Zhu Xiangwei</i>	
Soft Clustering with CP matrices.....	2958
<i>Xu Changqing, Xu Guanghui, and So Wasin</i>	
Solution to Intelligent Management and Control of Digital Home.....	2962
<i>Mao Mingyi, Mo Qian, Huang Qingfu, Lv Jianjun, and Chen Zhicheng</i>	
Study of Mould Breakout Prediction Technique in Continuous Casting Production.....	2966
<i>Li Wentao, Li Yang, and Zhang Yuan</i>	
Study on Cholecystitis Incidence Rate Forecasting with BP Network Method.....	2971
<i>Ma Liangliang and Tian Fupeng</i>	
Study on Information Fusion Method of Extenics-based D-S Evidential Theory.....	2975
<i>Qi Furong, Wu Qiang, Li Zhong, and Wang Ailing</i>	
Study on the Multi-factor Degree Set Pair Analysis Fuzzy Evaluation Model Based on Entropy Weight.....	2979
<i>ZHANG Zezhong, QIAO Pengshuai, QI Qingqing, XU Jianxin, LI Yanbin, and ZHENG Zhizhong</i>	
The comparative study of the Business Intelligence Explorer and the Traditional Explorer.....	2985
<i>Yu Zhaozhi and Ji Xiang</i>	
The Enhanced Genetic Algorithms for the Optimization Design.....	2990
<i>Guo Pengfei, Wang Xuezhi, and Han Yingshi</i>	
The Position Follow-Up System based on Combined Fuzzy-PID Controller.....	2995
<i>Zhang Tao</i>	
The Research of The Fault Types Recognition in Transformer by Differential Protection Based on LIBSVM.....	2999
<i>Wu Hao, Fu ChengHua, Guo Hui, and Chen ChangZhong</i>	

The Smarandachely Adjacent-vertex Distinguishing Total Coloring of Two Kind of 3-regular Graphs.....3004
LI Jingwen, Wang Zhiwen, Wen Fei, and Zhang Zhongfu

Various Selection Approaches on Evolutionary Multiobjective Optimization.....3007
Xie Chengwang and Ding Lixin

Other Topics in Informatics

A Deformation Monitoring Model for Concrete Dams Based on PSO-ASIN.....3012
Gu Xiaoqing and Shen Zhenzhong

A Fuzzy Cluster Method for Real-time Water Demand in Unsurveyed Irrigation Area.....3016
Ma Jianqin, Zhang Zhenwei, and Xu Ming

A Method of Chinese Document Expression for Extracting Formal Context.....3020
Huang Yinghui, Li Guanyu, and Wang Dongyan

A Novel High Birefringence Photonic Crystal Fiber with Squeezed Elliptical Holes.....3024
Song Peng, Tong Yanrong, and Chen Xinlian

Application Of Improved K-means Clustering Algorithm In Transit Data Collection.....3028
Wu Xueying and Yao Chunlong

Application WASP Model on Validation of Reservoir-Drinking Water Source Protection Areas Delineation.....3031
Huang Jianping, Liu Na, Wang Mengyuan, and Yan Kelu

Constraint-Based Semi-Supervised Dimensionality Reduction with Conflict Detection.....3036
Chen Binhuai and Bai Qingyuan

Discovering Important Nodes through Comprehensive Assessment Theory on Enron Email Database.....3041
Yang Huijie, Luo Junyong, Liu Yan, Yin Meijuan, and Cao Ding

Evaluation of Topography Effect on Evaporative Fraction from MODIS data in Taihu Basin, China.....3046
Zhao Xiaosong, Liu Yuanbo, Peng Jian, and Zhao Dongbo

Improved Meta-Analysis for Truncated Data.....3050
Xie Yuntao and Yang Juan

Leaves And Inverse Degree Of A Graph.....3055
Yao Bing, Chen Xiang-en, Yao Ming, Zhang Jiajuan, and Guo Jingxia

Preliminary Studies on Influential Factors on Callus Induction of Phalaenopsis.....3060
Fan Shuguo, Jiang Ming, Qiu Lu, Li Guoshu, and Yang Haiyan.

Prestack Seismic Data Enhancement with the Common-offset Common Reflection Surface (CO CRS) Stack.....	3065
<i>Li Dong, Li Zhenchun, Sun Xiaodong, Qin Ning, and Zhou Xuefeng</i>	
Pseudo-association Rules Algorithm in Data Mining.....	3070
<i>Furong Jing, Junhui Yang, and XieFu Wen</i>	
Semi-supervised Text Categorization with Only a Few Positive and Unlabeled Documents.....	3075
<i>Lu Fang and Bai Qingyuan</i>	
Singularities of C-Bézier curves.....	3080
<i>chen wei, chen ting, and wang wentao</i>	
Study on Improved Fuzzy Comprehensive Evaluation of Construction Diversion Schemes.....	3083
<i>Zhang Ping, Liu Yong, Wang Xiaoling, Liu Donghai, Tong Dawei, and Li Tao</i>	
The Study And Implementation Of Meteorologic Automatic Observation Information Sharing Platform Base On WebGIS.....	3087
<i>Xue LongQin and Wang ZuHan</i>	
Turbulent Flow Simulation Around Two-Dimensional Hydrofoil.....	3091
<i>Ying Hu, Hua Li, and heming Cheng</i>	
Weak Electrical Signals of the Jasmine Processed by RBF Neural Networks Forecast.....	3095
<i>Wang Lanzhou and Li Qiao</i>	

Author Index