

2009 ICME International Conference on Complex Medical Engineering

(CME 2009)

**Tempe, AZ, USA
9 – 11 April 2009**



**IEEE Catalog Number: CFP09CME-PRT
ISBN: 978-1-4244-3315-5**

TABLE OF CONTENTS

SESSION I – BIOMEDICAL IMAGING I: NEURODEGENERATION 1

Whole Brain Atrophy Based on Iterative Principal Component Analysis and MRI Techniques in the Study of Alzheimer's Disease	1
<i>L. Kong, Z. Huan, C. Reschke, J. Shapiro, X. Liu, N. Ayutyanont, J. Venditti, W. Lee, E. Reiman, K. Chen</i>	
Sparse Inverse Covariance Analysis of Human Brain for Alzheimer's Disease Study	5
<i>R. Patel; J. Liu; K. Chen; E. Reiman; G. Alexander; J. Ye</i>	
Analysis of Anatomical Networks Using Regional Gray Matter Volume with Japanese Brain MRI Database	N/A
Computer-aided Volume Measurement of the Local Homogenous Region on Magnetic Resonance Images	10
<i>S. Song, Z. Zhan, Z. Jin, L. Yao, X. Guo</i>	
Segmentation of Ventricles in Brain CT Images Using Gaussian Mixture Model Method	15
<i>W. Chen, K. Najarian</i>	

SESSION II – NEUROPROSTHETICS: NEURODEGENERATION 1

Towards Multi-Dimensional Robotic Control via Noninvasive Brain-Computer Interface	21
<i>X. Chen, O. Bai</i>	
P300 Based BCI Messenger	26
<i>Y. Li, J. Zhang, Y. Su, W. Chen, Y. Qi, J. Zhang, X. Zheng</i>	
Neuron Prediction of Muscle Activity in Rhesus Macaque for a Standing and Squatting Task	N/A
Investigation of Cortical Neuronal Reorganization for Neuroprosthetics in Monkeys	31
<i>C. Ma, J. He, H. Zhang</i>	
Novel Neuronal Ensembles Encoding Analysis Method Based on Rough Set Theory	40
<i>J. Dai, Y. Yu, S. Zhang, X. Liu, C. Sun, X. Zheng</i>	

SESSION III – BIOMEDICAL IMAGING II: NEURODEGENERATION 2

Using the Artificial Neural Network to Discriminate Between Normal Controls with Different APOE e4 Genotypes and Probable AD Cases in PIB-PET Studies	45
<i>N. Ayutyanont, K. Chen, V. Villemagne, G. O'Keefe, X. Liu, C. Reschke, W. Lee, J. Venditti, D. Bandy, M. Yu, S. Reeder, C. Rowe, E. Reiman</i>	
Automation of the Logan Plot Based PiB-PET Quantification Over Multiple Subjects and Multiple Reference Regions	50
<i>Y.-W. Sun, X. Liu, J. Langbaum, J. Venditti, E. Reiman, K. Chen</i>	
Reducing the Noise Effects in Logan Graphic Analysis for PET Receptor Measurements	55
<i>H. Guo, K. Chen, R. A. Renaut, E. M. Reiman</i>	
Image Processing and Machine Learning for Diagnostic Analysis of Microcirculation	60
<i>S. Demir, N. Mirshahi, M. H. Tiba, G. Draucker, K. Ward, R. Hobson, K. Najarian</i>	

FLCSFD - A Fuzzy Local-Based Approach for Detecting Cerebrospinal Fluid Regions in Presence of MS lesions	65
<i>F. X. Aymerich, E. Montseny, P. Sobrevilla, A. Rovira</i>	

SESSION IV – COGNITIVE NEUROTECHNOLOGY I: COGNITIVE FUNCTION

Feasibility of Exploratory Eye Movements in Patients with Neurological and Psychiatric Diseases	71
<i>Y. Goto, T. Yoshida, T. Hayasaka, H. Nakayama</i>	
A Model of Alzheimer's Disease and Mild Cognitive Impairment based on EEG Coherence	75
<i>K. Akrofi, M. C. Baker, M. W. O'Boyle, R. B. Schiffer</i>	
Early Diagnosis of Alzheimer's Disease with Cognitive Neuropsychological Tests	81
<i>J. Yang, Y. Shen, J. Wu</i>	
Common and Distinct Neural Substrates of Forward-chaining and Backward-chaining Syllogistic Reasoning	85
<i>X. Jia, S. Lu, N. Zhong, Y. Yao, K. Li, Y. Yang</i>	
Visual Field Representation and Location of Visual Area V1 in Human Visual Cortex by Functional MRI	91
<i>T.-Y. Yan, F.-Z. Jin, J.-L. Wu</i>	

SESSION V – INFORMATION AND COMMUNICATION TECHNOLOGY I: INFORMATICS

Multidimensional Trajectory Mining and its Application to Medicine	96
<i>S. Tsumoto, S. Hirano</i>	
Tool-assisted Healthcare Knowledge to HL7 Message Translation	102
<i>P. Jayaratna, K. Sartipi</i>	
Data Mining in Hospital Information System for Hospital Management	109
<i>S. Tsumoto, S. Hirano</i>	
A Maximum Entropy Method to Recognize Disease Named Phrase	114
<i>X. Cai; X. Fan</i>	

SESSION VI – COGNITIVE NEUROTECHNOLOGY II: VISION AND HAPTICS

The Contribution of IPL(BA7/39) and ACC(BA24/33) in Visual Spatial Voluntary Attention	118
<i>C. Li, J. Wu, H. Han, D. Chui</i>	
Neural Differences of Text and Figure during Representation and Processing on Human Brain: An fMRI Study	123
<i>M. Li, S. Lu, N. Zhong</i>	
Decomposition of VEP and Dominant Rhythm Components during Photic Stimulation by Use of EEG Model	127
<i>T. Sugi; S. Tsuchiya; S. Nishida; Y. Goto; S. Tobimatsu; M. Nakamura</i>	
Development of a Shape Conveying Interface Based on Tactile Feedback	131
<i>K. Deng, E. T. Enikov, V. D. Polyzoiev</i>	
Development of a Dual Tactile Pattern Presentation Device using in MRI Environment	136
<i>J. Yang, J. Wu, D. Chui, H. Han</i>	

SESSION VII – THURSDAY POSTERS

Time Series Analysis of Neural Facilitation of Muscle Activation Recorded Using Chronically Implanted Microwire Arrays	140
<i>J. J. Aguayo, H. Zhang, J. He</i>	
Perception Mechanisms of Bone-conducted Ultrasound Assessed by Electrophysiological Measurements in Humans	145
<i>S. Nakagawa, A. Nakagawa</i>	
A Portable Wireless Eye Movement-controlled Human-Computer Interface for the Disabled	150
<i>X. Zheng, X. Li, J. Liu, W. Chen, Y. Hao</i>	
An Improved Feature Extraction Method for Self-paced Brain-computer Interface Application	155
<i>G. Chen, J. Zhang, L. Yao</i>	
Multi Channel Micro Neural Probe Fabricated with SOI	161
<i>S. Wang, W. Pei, K. Guo, Q. Gui, Y. Wang, X. Zhang, J. Tang, H. Chen</i>	
Design of Automated Digital Eye Palpation Exam for Intraocular Pressure Measurement	165
<i>A. V. Luce, E. T. Enikov, B. J. Nelson</i>	
A Label-free, Rapid Multimarker Protein Impedance-based Immunosensor	170
<i>A. B. Fairchild, K. McAferty, U. K. Demirok, J. T. La Belle</i>	
Laparoscopic Grasper with an Integrated Tactile Feedback System	175
<i>C. Wottawa, R. E. Fan, C. E. Lewis, B. Jordan, M. O. Culjat, W. S. Grundfest, E. P. Dutson</i>	
An Automated Detection and Correction Method of EOG Artifacts in EEG-Based BCI	180
<i>J. Wu, J. Zhang, L. Yao</i>	
Classification of Sustained Attention Level Based on Morphological Features of EEG's Independent Components	185
<i>F. Ghassemi, M. H. Moradi, M. T. Doust, V. Abootalebi</i>	
Extracting Principal Components and Determining Critical Questions in Connors ADHD Questionnaire	191
<i>F. Ghassemi, M. H. Moradi, M. T. Doust, V. Abootalebi</i>	
The Influence of Spatial Congruency on Audiovisual Interaction in a Visual-attention Task	196
<i>Q. Li, J. Wu, T. Touge</i>	
The Effect of Color and Location Cues on Visual Attention	N/A
MR Angiography of the Abdominal Artery by IR-prepared, Segmented TrueFISP at 3T without Contrast Agents	200
<i>K. Maruyama, N. Mizuuchi, T. Moroi, I. Isobe, T. Usagawa, T. Sueyoshi, N. Iriguchi</i>	
A Study of Human Brain Structural Connectivity Based on Diffusion Tensor Imaging in Alzheimer's Disease	204
<i>H. Hong, L. Yao, X. Zhao</i>	
Depiction of the Spinal Cord by Diffusion Weighted Imaging	208
<i>N. Mizuuchi, K. Maruyama, T. Moroi, S. Takemoto, T. Sueyoshi, T. Usagawa, N. Iriguchi</i>	
Multidirectional RF Coils for MRI	213
<i>S. Takemoto; M. Migita; N. Mizuuchi; K. Maruyama; T. Moroi; T. Sueyoshi; M. Sekino; N. Iriguchi</i>	
Motion Artifact Reduction by Randomized Phase Encoding (RPE) Turbo Spin Echo (TSE)	217
<i>T. Moroi, N. Mizuuchi, K. Maruyama, S. Takemoto, T. Sueyoshi, T. Usagawa, N. Iriguchi</i>	

Video Coding Based on Redundant Discrete Wavelet and DT Grid	221
<i>Z.-G. Liu, T. Gao, P. Xing</i>	
A Pulse Sequence for Improving MRI Images	225
<i>A. S. Malik, T. L. Song</i>	
Minimization of Patient Misidentification Through Proximity-based Medical Record Retrieval.....	229
<i>S. Natarajan, C. R. Wottowa, E. P. Dutson</i>	
A Novel Method of Measuring the Depth of Manual Chest Compressions During CPR	N/A
Implantable Microsystem for Wireless Neural Recording Applications.....	234
<i>X. Zhang, W. Pei, B. Huang, J. Chen, N. Guan, H. Chen</i>	
ROI Auto-Detecting and Coding Method for MRI Images Transmission	238
<i>Z. Liu; Z. Chai; P. Xing</i>	
An Accelerometer Based Fall Detector for Elderly People.....	N/A
Solving the EEG Forward Problem by FDM and FEM	N/A
Validity Analysis of Dynamic Electrocardiogram Waveform Selection Strategy By Waveform Pattern Comparison.....	242
<i>G. Zheng, T. Yu, G. C. Cao</i>	
Tactile Perception of Two Lengths by Precision Gripping with Three Forefingers.....	246
<i>H. Wang, J. Wu</i>	
Processing of Chinese Characters and Figures in Literate and Illiterate Subjects: A Visual fMRI Study	251
<i>X. Li, J. Wu, Q. Guo</i>	

SESSION VIII – BIOMEDICAL IMAGING III: IMAGE GUIDANCE

An Efficient Medical Image Tracking Algorithm Based on Motion Estimation	256
<i>X.-C. Zou, M.-Y. He, X.-B. Zhao</i>	
Super-Resolution from Multiframe X-Ray Images.....	260
<i>Z. Ma, X. Zhao</i>	
Research on Path Planning for Tooth Movement in Virtual Orthodontics Treatment System	N/A
An Image-Processing Enabled Dental Caries Detection System	266
<i>G. F. Olsen, S. S. Brilliant, D. Primeaux, K. Najarian</i>	
A New Integrated Lossy/lossless Compression Technique Applying for Telemedicine of CT Scans.....	N/A

SESSION IX – NEUROMODULATION AND NEUROPLASTICITY

Transcranial Direct Current Stimulation Over Premotor Cortex Modifies the Excitability of the Ipsilateral Primary Motor and Somatosensory Cortices	274
<i>H. Kirimoto, K. Ogata, H. Onishi, M. Oyama, Y. Goto, S. Tobimatsu</i>	
Effect of Theta Burst Stimulation on Sensorimotor Cortex in Humans	289
<i>K. Matsunaga, M. Saglam, N. Murayama, Y. Hayashida, R. Nakanishi</i>	
Excitability Changes of Corticospinal Pathways by Magnetic Brain Stimulation During the Maximum Voluntary Muscle Contraction.....	295
<i>T. Touge, Y. Urai, M. Shimamura</i>	

Effects of Repetitive Transcranial Magnetic Stimulation on ictogenesis in genetically epileptic EL mice	300
<i>T. Yuhi, Y. Fueta, S. Tsuji</i>	
Event-Related Coherence and Correlogram for Analysis of Corticomuscular Connectivity	304
<i>O. Bai, P. Lin, J. Wu, X. Chen, D. Fei, M. Hallett</i>	

SESSION X – BIOMEDICAL IMAGING IV: LUNG AND NEUROVASCULATURE

Three Dimensional EIT Models for Human Lung Reconstruction Based on Schur CG Algorithm	310
<i>W. Fan, H. Wang, X. Chen, Z. Lv</i>	
Lung Ventilation Imaging based on Structural Model by Electrical Impedance Tomography	315
<i>X. Y. Chen, H. X. Wang, W. Y. Fan, Z. Y. Lv</i>	
Comparison of FFT and Wavelet Methods in Transcranial Doppler Signal Obtained from Intracerebral Vessels	N/A
Spatial Tissue Oxygenation Measurement with near Infra-Red Spectroscopy using a Virtual Instrument	320
<i>J. W. Sun, Y. Zhang, P. Rolfe, F. Scopesi, G. Serra, G. Wei</i>	

SESSION XI – TECHNOLOGY IN REHABILITATION

Effects of Deep Brain Stimulation on Dynamic Posture Shifts in Parkinson's Disease	324
<i>K. Narayanan, S. Mulligan, P. Mahant, J. Samanta, J. J. Abbas</i>	
Design and Control Algorithm of the Two Therapy Modes for RUPERT	N/A
Robot-measured Performance Metrics in Stroke Rehabilitation	330
<i>S. Balasubramanian, R. Wei, R. Herman, J. He</i>	
Functional Electrical Stimulation (FES) Effects for Event Related Desynchronization (ERD) on Foot Motor Area	336
<i>M. Takahashi, M. Gouko, K. Ito</i>	
The Relationship between Electrical Stimulus and Viscoelastic Parameters of the Denervated Anterior Thigh Muscles	342
<i>M. Krenn, D. Rafolt, E. Gallasch, H. Kern, W. Mayr</i>	

SESSION XII – INFORMATION AND COMMUNICATION TECHNOLOGY II: FEATURE EXTRACTION

Extracting Sequential Episodes Representing Replacements of Bacteria from Bacterial Culture Data	347
<i>T. Katoh, K. Hirata, H. Arimura, S. Yokoyama, K. Matsuoka</i>	
Detection of P, QRS, and T Components of ECG Using Wavelet Transformation	351
<i>A. Al Raoof Bsoul, S.-Y. Ji, K. Ward, K. Najarian</i>	
Wavelet Based Analysis of Physiological Signals for Prediction of Severity of Hemorrhagic Shock	357
<i>S.-Y. Ji, W. Chen, K. Ward, C. Rickards, K. Ryan, V. Convertino, K. Najarian</i>	
Signal Processing and Machine Learning for Real-Time Classification of Ergonomic Posture with Unobtrusive On-body Sensors; Application in Dental Practice	363
<i>G. F. Olsen, S. S. Brilliant, D. Primeaux, K. Najarian</i>	

Modeling of Driver Steering Operation in Lateral Disturbances based on Driver's Motion Sensation	374
<i>Y. Kurata, T. Wada, N. Kamiji, S. Doi</i>	

SESSION XIII – MULTIMODAL AND QUANTITATIVE MICROSCOPY

Multimodality Microscopy of Cell Dynamics in Three-Dimensional Engineered and Natural Tissues	379
<i>S. A. Boppart</i>	
Nonlinear Vibrational Imaging of Tissues	386
<i>R. S. Lim, M. Zimmerly, M. Levi, N. P. Barry, W. W. Mantulin, B. J. Tromberg, E. O. Potma</i>	
Three-Dimensional Multi-Modal Microscopy	391
<i>C. A. DiMarzio</i>	
Optical Fourier Processing Microscope to Quantify Subcellular Structure and Dynamics	395
<i>N. N. Boustany, J.-Y. Zheng, R. M. Pasternack, Z. Qian</i>	

SESSION XIV – FRIDAY POSTERS

Study on HepG-2 Apoptosis Induced by Saponins isolated from Asparagus and the Effects on the Activities of Caspase-3,8,9	401
<i>Y. Ji, C. Ji, L. Yue, H. Xu</i>	
Study on the Regulation of Erythrocyte in S180 Mice Treated by Asparagus Officinalis Polysaccharide on Immunological Reaction of Lymphocyte	405
<i>C. Ji, Y. Ji, Y. Min</i>	
Effect of Asparagus Saponins on HepG2 Apoptosis and Mitochondrial Membrane Potential and ROS Level	409
<i>C. Ji; Y. Ji; L. Yue</i>	
Effect of Juglone in Qinglongyi on Cell Cycle Status and Apoptosis in A-549 Cells	414
<i>X. Zou; Y. Ji; L. Kong; C. Ji</i>	
Effect of Qinglongyi Polysaccharide on Cation Concentration in Erythrocyte of S180 Mice	418
<i>X. Zou; Y. Ji; C. Ji; F. Xiao</i>	
Study of Olfactory Effect on Individual Driver Under Driving	422
<i>S. Hiroike, S. Doi, T. Wada, E. Kobayashi, M. Karaki, N. Mori, T. Kusaka, S. Ito</i>	
Nutritional Evaluation and DPPH Assay of Pakistani Variety of Fennel (Foeniculum Vulgare)	428
<i>M. K. Saeed, N. Ejaz, I. Ahmed, M. Ashraf, Imran-ul-Haq, I. Iqbal, Z.-U. Khokhar</i>	
The Effects of Ge Gen Qin Lian Decoction and its active fractions on IRS-1 mRNA of Insulin Resistant HepG2 Cells	432
<i>Y. Zhao, W. Li, Y. Shi, H. Teng, D. Li, Y. Li</i>	
Phytotoxicity of Spinach by Cadmium in Different Textured Soils Amended with Organic Matter	435
<i>F. Bashir, M. A. Kashmiri, T. Shafiq, M. K. Saeed, M. Tariq</i>	
Effects of Juglone on ROS Production and Mitochondrial Transmembrane Potential in SGC-7901 Cells	439
<i>Y. Ji, Z. Qu, X. Zou, L. Cui</i>	
Chemical Analysis and Characterization of (Brassica napus) Canola Oil Seed	443
<i>Imran-ul-Haq, M. K. Saeed, I. Ahmed, M. Ashraf, N. Ejaz</i>	

Antioxidant Activity of Zingiber officinale Roscoe's Extract, Oleoresin and Essential Oil from Pakistan	447
<i>M. K. Saeed, Z. Iqbal, S. Mehmud, N. Ejazl, Waqar-u-Nisa</i>	
Analysis of Relationship between Apoptosis and Changes of Ca²⁺ in HepG-2 Induced by CSA with Laser Scanning Confocal Technology	451
<i>Y. Ji; Y. Lei</i>	
Pharmacokinetics of Loganin in Rat Plasma after Oral Administration of Total Glycosides of Jinkuishenqi Pill	456
<i>W.-L. Li, J. Du, Y.-B. Ji, Z. Sun, X.-M. Sun</i>	
Studies on Intestinal Absorption Mechanism and Influential Factors of Cinnamic Acid in Rats	461
<i>W.-L. Li, X.-M. Sun, Y.-B. Ji, L.-L. Nan, J. Du, Z. Sun, C. Zhang</i>	
A Non-invasive Algorithm of the Continuous Intra-Abdominal Pressure Measurement using Parametric Curve Fitting Method	466
<i>K. S. Kim, C. G. Song, J. H. Seo</i>	
Comparison of Natural and Artificial Filling Cystometry using a Newly Constructed Portable Urodynamics System	471
<i>K. S. Kim, C. G. Song, Y. S. An, J. H. Seo</i>	
Pilot Testing of a Haptic Feedback Rehabilitation System on a Lower-limb Amputee	476
<i>R. E. Fan, C. Wottawa, A. Mulgaonkar, R. J. Boryk, T. C. Sander, M. P. Wyatt, E. Dutson, W. S. Grundfest, M. O. Culjat</i>	
Quantification of Parkinson's Disease Characteristics Using Wireless Accelerometers	480
<i>R. LeMoyne, C. Coroian, T. Mastroianni</i>	
Evaluation of a Wireless Three Dimensional MEMS Accelerometer Reflex Quantification Device Using an Artificial Reflex System	485
<i>R. LeMoyne, C. Coroian, T. Mastroianni</i>	
Monolithic Neuro-Stimulus Chip for Retinal Implants	490
<i>K. Li, X. Zhang, W. Pei, B. Huang, S. Wang, H. Wu, K. Wang, X. Li, H. Chen</i>	
Wireless Accelerometer System for Quantifying Gait	494
<i>R. LeMoyne; C. Coroian; T. Mastroianni</i>	
A Basic Study on Passive Force Display and Rehabilitation System with Redundant Brakes	498
<i>Y. Jin, J. Furusho, T. Kikuchi, K. Oda, S. Takashima</i>	
An Effective Treatment Strategy for Promotion of Lower Limb Functional Recovery in Adult Monkeys with Spinal Cord Injury	504
<i>C. Ma; J. He; J. J. Aguayo; H. Zhang; Y. Lee; H. Cheng</i>	
An Efficient Algorithm to Improve Feature Extraction and Classification of Knee Joint Sound	511
<i>K. S. Kim, C. G. Song, J. H. Seo, K. H. Park, J. Y. La, J. C. Kim</i>	
Antioxidant Activity of Zingiber Officinale Roscoe's Extract, Oleoresin and Essential Oil from Pakistan	N/A

SESSION XV – BIOMEDICAL IMAGING V: SEGMENTATION AND MOTION TRACKING

A Unified Method Based on Wavelet Filtering and Active Contour Models for Segmentation of Pelvic CT Images	517
<i>S. Vasilache, K. Najarian</i>	

Automatic Liver Parenchyma Segmentation from Abdominal CT Images Using Support Vector Machines	522
<i>S. Luo, Q. Hu, X. He, J. Li, J. S. Jin, M. Park</i>	
Splines and Active Shape Model for Segmentation of Pelvic X-Ray Images	527
<i>R. Smith, K. Najarian</i>	
An ACL Reconstruction Navigation and Evaluation System based on the Video Tracking	533
<i>Y. Hu, T. M. Wang, J. C. Wang, L. Sun, L. Hu, H. Feng</i>	

SESSION XVI – BIOSENSORS I: LAB ON A CHIP

A Breast Molecular Imaging Hybrid Pixel Sensor Test Chip with Low Noise CMOS Readout IC on Fully Depleted Silicon-on-insulator Design	538
<i>D. Nguyen, H. Cormican, A. Baysal, C. Wiswall, T. Kerr, J. M. Wang, D. Ma</i>	
Novel Design of Multiphase Optoelectronic Microfluidic Device for Dielectric Characterization of Single Biological or Colloidal Particles	542
<i>X. Zhu, H. Yi, Z. Ni</i>	
Dynamical Spot Queries to Improve Specificity in P450s based Multi-Drugs Monitoring	548
<i>S. Carrara, A. Cavallini, A. Garg, G. De Micheli</i>	
Fluorescence Resonance Energy Transfer Detection of Mouse Immunoglobulin G and Octamer-4 on Protein Nanoarray	554
<i>P. L. Tran, Y. Tchao, J.-Y. Yoon</i>	
Glucose Microdialysis with Continuous On-Board Probe Performance Monitoring	560
<i>A. J. Rosenbloom, H. R. Gandhi, G. L. Subrebost</i>	

SESSION XVII – BIOSENSORS II: PHARMACOLOGY & INSTRUMENTATION

Study on the Catechol-O-Methyltransferase Activity with HPLC-ECD	N/A
Glycation Induced Modification and Identification of AGEs-Precursors and AGEs in Human Serum Albumin	566
<i>W. Ahmad, Y. Deng, M. Ahmad, Z. Iqbal</i>	
Effect of Asparagus Polysaccharide on the Number and Activity of Erythrocyte Complement Receptor 1(CD35) of S180 Mice	572
<i>Y. Ji, C. Ji, Y. Min</i>	
Novel Extrusion System for the Encapsulation of Drug Releasing Bio-Medical Micro-Robots	576
<i>E. T. Enikov, M. T. Gibson, S. J. Ritty</i>	
Ergonomic Assisted Direct Laryngoscopic Intubation: Headup Display, Wireless Camera and Fiberoptic With Resistance to Fouling	582
<i>A. J. Rosenbloom, J. H. Park, S. Park, G. L. Subrebost, K. Shimada</i>	

ADDITIONAL PAPERS

Optimizing of Electrode System with Central Object in Electrical Impedance Tomography	587
<i>Y. Wang, H. Sha, S. Zhao, C. Ren</i>	
Changes in Biochemical Characteristics of Stability in Food Waste Compost by Four Different Techniques	591
<i>M. K. Iqbal, K. Ahmed, T. Shafiq, M. K. Saeed</i>	

Author Index