

2013 IEEE Signal Processing In Medicine and Biology Symposium

(SPMB 2013)

**Brooklyn, New York, USA
7 December 2013**



**IEEE Catalog Number: CFP1391R-POD
ISBN: 978-1-4799-3008-1**

TABLE OF CONTENTS

Seizure Detection Using Empirical Mode Decomposition And Time-Frequency Energy Concentration	1
<i>A. Feltane, G. Bartels, Y. Boudria, W. Besio</i>	
Instantaneous Frequency Analysis Shows Greater Sensitivity To Parasympathetic Components Of Heart Rate Than Spectral Analysis	7
<i>B. Griffel, S. Calvano, S. Coyle, M. Macor, B. Jan, M. Redell, J. Semmlow, S. Corbett, S. Lowry</i>	
Continuous Wave Simulations On The Propagation Of Electromagnetic Fields Through The Human Head	12
<i>J. Elloian, G. Noetscher, S. Makarov, A. Pascual-Leone</i>	
Virtual Musculoskeletal Arm And Robotic Arm Driven By A Biomimetic Model Of Sensorimotor Cortex With Reinforcement Learning	18
<i>S. Dura-Bernal, G. Chadderdon, S. Neymotin, X. Zhou, A. Przekwas, J. Francis, W. Lytton</i>	
Speckle Reduction Of Medical Ultrasound Using Compressive Re-Sampling And Instantaneous SNR	24
<i>R. Mammone, L. Barinov, A. Jairaj, W. Hulbert, C. Podilchuk</i>	
Enhanced Eye Gaze Direction Classification Using A Combination Of Face Detectoin, CHT And SVM	30
<i>A. Al-Rahayfeh, M. Faecipour</i>	
Low-Power Signal Processing Methodologies For Implantable Biosensing Platforms	36
<i>R. Croce, S. Vaddiraju, A. Legassey, S. Islam, F. Papadimitrakopoulos, F. Jain</i>	
EMG-Force Estimation For Multiple Fingers	41
<i>P. Liu, D. Brown, E. Clancy, F. Martel, D. Rancourt</i>	
Resting State fMRI Data Analysis Using Support Vector Machines	47
<i>X. Song, N. Chen</i>	
Improved Clustering Of Spike Patterns Through Video Segmentation And Motion Analysis Of Micro Electrocorticographic Data	53
<i>B. Akyildiz, Y. Song, J. Viveni, Y. Wang</i>	
Optimal Chaotic Synchronization Of Stochastic Delayed Recurrent Neural Networks	59
<i>Z. Liu</i>	
Preprocessing For Improved Computer Aided Detection In Medical Ultrasound	65
<i>R. Mammone, S. Lobe, L. Barinov, W. Hulbert, A. Jairaj, C. Podilchuk</i>	
Initial Assessment Of Artifact Filtering For RSVP Keyboard TM	68
<i>M. Haghghi, M. Akcakaya, U. Orhan, D. Erdogmus, B. Oken, M. Fried-Oken</i>	
Emulating Conventional Disc Electrode With The Outer Ring Of The Tripolar Concentric Ring Electrode In Phantom And Human Electroencephalogram Data	73
<i>O. Makeyev, Y. Boudria, Z. Zhu, T. Lennon, W. Besio</i>	
Functional Connectivity Network Based On Graph Analysis Of Scalp EEG For Epileptic Classification	77
<i>S. Sargolzaei, M. Cabrerizo, M. Goryawala, A. Eddin, M. Adjouadi</i>	
Reduced-Order Nonlinear Arterial Compliance Parameter Estimation Under Vasoactive States	81
<i>T. Phan, J. Li</i>	
Robust Adaptive Dynamic Programming For Sensorimotor Control With Signal-Dependent Noise	86
<i>Y. Jiang, Z. Jiang</i>	
Wavelet Based Photoplethysmogram Foot Delineation For Heart Rate Variability Applications	92
<i>N. Conn, D. Borkholder</i>	
Prediction Of Longterm Outcome Of Neuropsychological Tests Of MTBI Patients Using Imaging Features	97
<i>S. Minaee, Y. Wang, Y. Lui</i>	
Comparison Of Cephalic And Extracranial Montages For Transcranial Direct Current Stimulation - A Numerical Study	103
<i>J. Yanamadala, G. Noetscher, S. Makarov, A. Pascual-Leone</i>	
A Method To Detect Cardiac Arrhythmias With A Webcam	109
<i>S. Kyal, L. Mestha, B. Xu, J. Couderc</i>	
Author Index	