

2010 5th International Symposium on Health Informatics and Bioinformatics

(HIBIT 2010)

**Ankara, Turkey
20 – 22 April 2010**



**IEEE Catalog Number: CFP1022J-PRT
ISBN: 978-1-4244-5968-1**

Table of Contents

HI Session – I

Decision Support Systems and Computer Aided Diagnosis – I

ECG Beat Classification Using Discrete Wavelet Coefficients.....	1
<i>Azfar Adib, Md. Aynal Haque</i>	
Functional near infrared spectroscopy based cognitive task classification using support vector machines.....	7
<i>Berdakh Abibullaev, Won-Seok Kang, Seung Hyun Lee, Jinung An</i>	
Combination of Conventional Regularization Methods and Genetic Algorithms for Solving the Inverse Problem of Electrocardiography.....	13
<i>Sedat Sarıkaya, Yeşim Serinağaoğlu Doğrusöz, Gerhard-Wilhelm Weber</i>	
Toward Effective Medical Information Retrieval Systems.....	21
<i>Mohammed Al zamil, Aysu Betin Can</i>	

BI Session – I

Sequence Analysis/Phylogenetics

Physico-chemical Properties of DNA in Phylogeny Construction.....	27
<i>Yasin Bakış, O. Uğur Sezerman, Hasan H. Otu</i>	
Systematic Computational Analysis Of Potential RNAi Regulation In Toxoplasma gondii.....	31
<i>Mehmet Volkan Çakır, Jens Allmer</i>	
Multiple Sequence Alignment Based on Structural Properties.....	39
<i>Buğra Özer, Gizem Gezici, Cem Meydan, Uğur Sezerman</i>	
A Zero-Norm Feature Selection Method for Improving the Performance of the One-Class Machine Learning for MicroRNA Target Detection	45
<i>Malik Yousef, Waleed Khalifa</i>	

HI Session –II

Clinical Informatics and Hospital Information Systems

Supervising Event Executive.....	51
<i>Mehmet S Unluturk, Coskun Atay</i>	
Turkish Aeromedical Center	56
<i>Erdinc Ercan, Nazim Ata, Zeki Dulkadir, Yusuf Ersal, Ahmet Akın</i>	

Behavioral Intention of Avicenna Hospital Information System.....59
Atife Zeynep Şenkal, Sevgi Özkan

The Clinical Guidelines Usage Towards The Diagnosis And Treatment Of H1N1.....67
Serdar Koc, Guray Yilmaz, Yildiray Kabak

BI Session – II
Structural Bioinformatics - I

Inhibitor Peptide Design for NF- κ B: Markov Model & Genetic Algorithm.....72
Evrin Besray Unal, Attila Gursoy, Burak Erman

Computational Analysis Of The Binding Free Energy Of H3K9me3 Peptide To The Tandem Tudor Domains Of JMJD2A.....81
Musa Ozboyaci, Ozlem Keskin, Burak Erman, Attila Gursoy

Relation Between Kinetic Conversion Rates And ANM Mode Frequencies.....88
Beytullah Özgür, Attila Gürsoy, Özlem Keskin

SUMOtr: SUMOylation Site Prediction Based on 3D Structure and Hydrophobicity.....93
Ahmet Sinan Yavuz, Uğur Sezerman

HI Session – III
Decision Support Systems and Computer Aided Diagnosis - II

Classification of EEG Signals in Four Groups, Including Healthy Subjects with Open/Closed Eyes and Epilepsy Subjects with/without Seizure by PSD Estimate (Using the Multitaper Method) and ANN.....98
Masoud Alipoor, Mohammad Pooyan, Amir Abolfazl Suratgar

Computer Aided Diagnosis for Spina Bifida.....104
Umut Konur, Fikret Gürgen

Classification of Normal and Abnormal Respiration Patterns Using Flow Volume Curve and Neural Network.....110
Samane Jafari, Hosein Arabalibeyk, Khosro Agin

BI Session – III
Machine Learning for Bioinformatics

Machine Learning Techniques To Diagnose Breast Cancer.....114
Alireza Osareh, Bitu Shadgar

Interaction Prediction of PDZ Domains Using a Machine Learning Approach.....121
Sibel Kalyoncu, Ozlem Keskin, Attila Gursoy

Microarray Data Analysis For Medical Prognosis.....125
Alireza Osareh, Bitu Shadgar

Predict Permissive Sites of Protein for Insertion Domain.....133
Alican Türk, Osman Uğur Sezerman

HI Session –IV
Medical Signal/Image Analysis and Visualization

Interpolation Approaches And Spline Based Resampling For MR Images.....137
Evgin Goceri, Nicholas Loménie

Depth Data Based Capture Of Human Movement For Biomechanical Application In Clinical Rehabilitation Use.....144
Radmer Jochen, Krüger Jörg

Application of Shape Analysis on renal tumors in 3D.....149
Stefan Giebel, Schiltz Jang, Schenk Jens-Peter

BI Session – IV
Structural Bioinformatics - II

Coupling Between Energy and Residue Position Fluctuations in Native Proteins153
Mert Gur, Burak Erman

Determination of the Correspondence Between Mobility (Rigidity) and Conservation of the Interface Residues.....159
Gozde Kar, Attila Gursoy, Ozlem Keskin

Analysis of Phosphatase 1B WPD Loop Closure.....162
Burcu Ozkaral, Ahmet Ozcan, Burak Alakent, Elif Ozkirimli

Investigation Of Tem-1 And Shv-1 Beta-Lactamase Ligand Binding.....167
Pınar Kanlıkılıçer, Nilay Büdeyri, Berna Sarıyar Akbulut, Elif Özkırımlı Ölmez

BI Session – V
Genome-wide Bioinformatics Studies/Systems Biology

Relative Protein Quantitation with Post Translational Modifications in Mass Spectrometry Based Proteomics173
Jens Allmer

Stochastic Simulation of Large Biochemical Systems by Approximate Gillespie Algorithm.....181
Vilda Purutcuoglu

Coevolution Based Prediction Of Protein-Protein Interactions With Reduced Training Data.....187

Bahar Pamuk, Tolga Can

BI Session – VI

Structural Bioinformatics - III

Structural Properties of Hub Proteins.....194

Engin Cukuroglu, Elif Ozkirimli, Ozlem Keskin

Reaction Path Analysis for Demethylation Process of Histone Tail Lysine Residues.....197

Bora Karasulu, Ozlem Keskin, Burak Erman

Using Amino Acid Typing to Improve the Accuracy of NMR Structure Based Assignments.....206

Halit Erdogan, Mehmet Serkan Apaydin

Determining the Ligand-Specific Regions of Peptide-Binding Gpcr.....211

Murat Can Cobanoglu, Nermin Pinar Karabulut, Ugur Sezerman