2011 International Conference on Environment Science and Biotechnology

(ICESB 2011)

Procedia Environmental Sciences Volume 8

Maldive Islands
25-27 November 2011

Editors:

Yang Dan

ISBN: 978-1-62748-531-9
ISSN: 1878-0296
Contents

Message from the Organizing Committee of the First 2011 International Conference on Environment Science and Biotechnology (ICESB 2011) ................................. 1
P.S. Sandhu ................................................................. 1
Organizing Committees .................................................. 2
The Study of PAFSSB on RO Pre-Treatment in Pulp and Paper Wastewater
S. Li, X. Zhang ............................................................. 4
Preparation and Characterization of γ-Poly(Glutamic Acid) Copolymer with Glycol Diglycidyl Ether
X. Yang ........................................................................ 11
Effects of Phosphorus Accumulation in Soil with the Utilization Ages of the Vegetable Greenhouses in the Suburb of Shenyang
L. Fei, M. Zhao, X. Chen, Y. Shi ........................................ 16
Soil Nitrogen Accumulation in Different Ages of Vegetable Greenhouses
M. Zhao, Y. Shi, X. Chen, J. Ma ......................................... 21
Analysis on Composition and Pattern of Agricultural Non-Point Source Pollution in Liaohe River Basin, China
Q. Wen, X. Chen, Y. Shi, J. Ma, Q. Zhao ............................ 26
Effects of Elevated CO₂ and O₃ and N Fertilization on Amount of Soil Microbial Biomass Carbon in Spring Wheat Growing Season
R. Fang, Y. Shi, C. Lu, X. Chen ........................................... 34
Numerical Simulation Technology of Oil Containment by Boom
F. Xing, W. Wangqing, W. Wenfeng .................................... 40
Available K and Total Organic C Accumulation in Soil with the Utilization Ages of the Vegetable Greenhouses in the Suburb of Shenyang
Z. Liu, X. Chen, Y. Shi, M. Niu .......................................... 48
The Study of Influencing Factors to Corn Straw Mixed with Pig Effluent Anaerobic Fermentation
M. Niu, X. Pang, S. Chen ................................................. 54
Degradation of Diesel with Microorganisms in Rhizosphere of Carex Phacota Spr.
Growth Response and Phytoremediation Ability of Reed for Diesel Contaminant
J. Wang, X. Liu, X. Zhang, X. Liang, W. Zhang ...................... 68
Influences of various Aluminum Coagulants on Algae Floc Structure, Strength and Flotation Effect
W. Yuheng, Z. Shengguang, L. Na, Y. Yixin .......................... 75
Changes of Soil Carbon and Nitrogen Storages under Modern Industrialization in a Rural Landscape of North China Plain
K. Peng ....................................................................... 81
Strategic Path of China’s Low-Carbon Technology Development
Z. Wang ...................................................................... 90
Research on the Countermeasures of the Reduction in Water Transfer from the Yellow River in Yinchuan Plain, China
W. Wei, Q. Hui .................................................................. 97
Spatial and Temporal Change of Landscape Pattern in the Hilly-Gully Region of Loess Plateau
G. Lubo, Y. Lei, R. Ye, C. Zhewei, B. Huaxing ..................... 103
Planning of Petrochemical Industrial Park based on Health Idea—A Case of Changliang Industrial Park in Yunxi
W. Min, L. Wenxiu ......................................................... 112
Stress Analysis of Masson Pine in Ice and Snow Loads
Development and Optimization of an Indirect Competitive ELISA for Detection of Norfloxacin Residue in Chicken Liver
J. Jinqing, Z. Haitang, L. Junwei, L. Junmin, W. Ziliang ................ 128
Analysis on Interactions among Atmosphere, Surface and Ground Water using EARTH Model in the Unsaturated Zone
X. Lu, Z. Zhou, J. Wang .................................................... 134
Numerical Simulation of the Groundwater in Bulang River-Red Stone Bridge Water Source
Z. Fuzhong, W. Yani, Q. Hui, Z. Xuedi .................................. 140
Research and Application of Groundwater Numerical Simulation-A Case Study in Balasu Water Source
S. Yanxun, F. Yuan, Q. Hui, Z. Xuedi .................................... 146
Spatio-Temporal Dynamics of Soil Moisture in Silvopastoral System in the Loess Plateau of West Shanxi Province
Y. Zhan, Y. Mei, G. Lubo, B. Huaxing, Z. Qingke, W. Xiaoyan .......... 153
Simulation of Metal Contents through Correlated Optimal Monitoring Metals of Dagu River Sediments
J. Sun, Z. Wang, R. Li, D. Ma, B. Liu ..................................... 161
Optimization of Entrapping Conditions of Nitrifying Bacteria and Selection of Entrapping Agent
J. Sun, J. Liu, Y. Liu, Z. Li, J. Nan ......................................... 166
LogP Prediction for Blocked Tripeptides with Amino Acids Descriptors (HMLP) by Multiple Linear Regression and Support Vector Regression
J. Yin .......................................................................... 173
An Efficiency Human Genomic DNA Extraction from Dried Blood Spots
Detection and Recognition of Motor Unit Action Potentials in the Multi-Channel Surface EMG Signals
Q. Li, J. Yang .................................................................. 186
Test the Mechanical Properties of Articular Cartilage using Digital Image Correlation Technology

Y. Wang, H. Liu, L. Gao, B. Xu, C. Zhang ................................................................. 191

A Roller-Loading Bioreactor System for Researching Cartilage Mechanobiology

J. Gao, C. Zhang, H. Liu, L. Gao, M. Sun, X. Dong ........................................... 197

Performances Evaluation of Photo-Fenton Process and Sonolysis for the Treatment of Penicillin G Formulation Effluent

M.S. Saghafinia, S.M. Emadian, M. Vossoughi .................................................. 202

A General Method for Calculation of Depth of Anesthesia

L. Wang, Z. Ni, J. Meng, F. Qiu, J. Huang ......................................................... 209

EEG Signal Processing in Anesthesia Feature Extraction of Time and Frequency Domain and the Application of SVM

Z. Ni, L. Wang, J. Meng, F. Qiu, J. Huang ......................................................... 215

The Effect of Endosulfan Insecticide on Blood Parameters in Rat

M. Modaresi, A.R. Jalalzand ................................................................. 221

Medical Images Denoising based on Total Variation Algorithm

B. Li, D.S. Que .................................................................................. 227

The Amount of Dursban Pesticide Residues in Isfahan Sugar Beet

A.R. Jalalzand, H. Fakhari, M. Modaresi, M. Shayeghi, M. Abtahi .................................................................................. 235

VRKidney for Serially Sectioned Image Processing and 3D Reconstruction by using Visible Korean Human Data Set

X. Li, J. Shi, Y. Cao, J. Li, A. Chen, G. Chen ....................................................... 240

One Step Highly Sensitive Piezoelectric Agglutination Method for Cholera Toxin Detection using GM1 Incorporated Liposome


Studying on Damage of Carob Moth in Three Pomegranate Cultivars of Isfahan (Iran)

S.H. Iesharaki, J. Karimizadeh, A.R. Jalalzand, M.H. Besharatnejad, M. Modaresi ......................................................... 257

Medical Image Fusion with Adaptive Local Geometrical Structure and Wavelet Transform

B. Lu, H. Wang, C. Miao ........................................................................... 262

Preparation and In-Vitro Release Performance of Sodium-Ion-Chlorophyllin Microcapsules

L. Wang, J. Chu .................................................................................. 270

Image-Guided Navigation System for Robot-based Vessel Intervention Surgery based on Conventional Single Plane CArm

B. Liu, X. Bai, C. Meng, S. Lv, F. Zhou ................................................................ 276

Prediction and Identification of B-Cell Epitopes on Goose Parvovirus Capsid Protein

T.-f. Yu, M. Li, Y. Guo, G.-j. Song, R.-x. Li, A. z. Xu, S.-l. Shao .............................................. N/A

Prediction and Identification of B-Cell Epitopes on Goose Parvovirus Non-structural Protein

T.-f. Yu, M. Li, Y. Guo, G.-j. Song, R.-x. Li, A. z. Xu, S.-li Shao ...................................... N/A

Expression and Clinicopathology of Heat Shock Protein 72 and Glycoprotein 96 in Human Esophageal Squamous Cell Carcinomas

X. Wang, H. Lin, Q. Wang ........................................................................ 294

Multiresidue Determination of Sarafloxacin, Difloxacin, Norfloxacin, and Pefloxacin in Fish using an Enzyme-Linked Immunosorbent Assay

J. Jingqing, Z. Haitang, W. Ziliang .................................................................. 301

Designing of Heart Sound Diagnostic System based on OMAP3530

X. Yang, H. Huang, J. Ding, Z. Liu, W. Fu ................................................................ 307

Research on Water’s Influences on the Quality of Frozen Dough

B. Yuru, W. Xianlun ............................................................................. 313

A Collaboration Transparency Approach to Share Heterogeneous Single-User Molecule Editors

C. Zhao, R. Zhang, R. Yahypour, R. Hu .................................................................. 319

Quantitative Assessment of the Small Bowel Motility with Negative Mutual Information in Cine-MRI Sequences

X. Wu, W. Zhang, Q. Li .......................................................................... 328

Identifying Concealed Information using Wavelet Feature Extraction and Support Vector Machine

M. Zhao, C. Zhao, C. Zheng .......................................................................... 337

Channels and Collaterals’ Biology Characteristic Research: The Channels and Collaterals Low Resistance’s Electricity Physiology Characteristic with has the Mechanism Research

L. Wenzhong ...................................................................................... 344

The Pupil Location based on the OTSU Method and Hough Transform

Z. Lin, H. Yu ...................................................................................... 352

Effect of Some Factors on Production of Cellulase by Trichoderma Reeseri HY07

S. Guowei, H. Man, W. Shikai, C. He .................................................................. 357

Cusp Bifurcation in the Evolution Model of Cirrhosis

K. Ping .................................................................................................. 362

Global Failure of ICT due to Solar Storm: A Worst Case Scenario Ahead

M. Talib, T. M. Mogorthwane ........................................................................ 371

Radioisotopic Carbon in Vegetation of Coastal Zone of Finnish Bay (Russia)

M. Kulkova, F. Chaud, A. Davidochkina ................................................................ 375

Comparative Analysis of the Results of Ecological-Geochemical Investigations of the Snow Cover on Urbanized Areas with Different Technogenic Load

L. Zarina, I. Gracheva, E. Nesterov .................................................................. 382

Identification of QTLs for Morph-Physiological Traits Related to Salinity Tolerance at Seedling Stage in Indica Rice

M.A. Javed, F.Z. Huyop, A. Wargiran, F.M. Salleh ............................................. 389

Development of Culture Inoculum for Scale-Up Production of Citric Acid from Oil Palm Empty Fruit Bunches by Aspergillus Niger


Study on Extraction Technology for Chlorogenic Acid from Sweet Potato Leaves by Orthogonal Design

G. Li, S. Yu, X.-S. Yang, Q.-F. Chen .................................................................. 403

Discussion of Estimating Multiple Sources based on Three-Dimensional Magnetocardiograms Measurement

M. Liu, Y. Uchikawa .................................................................................. 408
Submicroscopic Morphology Comparisons between Hybrid F, by Wheat and Octoploid Triticale and the Parental Generation
Y. Liming, Z. Yinfa, Z. Zhixian, Z. Shanshan, L. Xiaohu ... 415

Growth of Biodiesel Plant in Flyash: A Sustainable Approach Response of *Jatropha Curcas*, a Biodiesel Plant in Fly Ash Amended Soil with Respect to Pigment Content and Photosynthetic Rate
S. Mohan ... 421

Research on the Extraction of Plant Volatile Oils
C. Zhi-Ling, C. Jian-Ping, C. Hui-Lin, B. Wei-Tao, C. Hai-Yan, L. Mo-Lin ... 426

Automated Vessel Tracing for Cerebral Vascularity Study in Microscopy Images
Y. Huang, P. Xie, X. Sun, G. Hu, Y. Huang ... 433

Anti-Tumor Immunity Induced by Cross-Link Complex Alpha-Fetoprotein and Glycoprotein 96
X. Wang, H. Lin, Q. Wang ... 440

DFT Calculations and Docking Study on Sesquiterpene Lactones: Inhibition of Aromatase
H.-J. Luo, J.-Z. Wang, W.-Q. Deng, K. Zou ... 446

Construction of MiRNA Eukaryotic Expression Vector and its Stable Expression in Human Liver Cancer Cells
G.F. Liang, S. Chen, Y.L. Zhu, Z.D. Xiao ... 451

Acceleration Genotype Imputation for Large Dataset on GPU
H. Xiaohan ... 457

The Outsole Pressure Distribution Character during High-Heeled Walking
Y. Gu, M. Rong, G. Ruan ... 464

Oxidative Stress and Antioxidant Defenses after Long-Term Fasting in Blood of Chinese Sturgeon (*Acipenser Sinensis*)
G. Feng, X. Shi, X. Huang, P. Zhuang ... 469

Expression of Human Soluble Trail Protein in Transgenic Tobacco *Nc89*
D. Wang, X. Bai, C. Ren, Y. Bai, Y. Wang ... 476

The Prediction of Peptide Charge States for Electrospray Ionization in Mass Spectrometry
H. Liu, J. Zhang, H. Sun, C. Xu, Y. Zhu, H. Xie ... 483

TIO2@Si Core/Shell Nanowires Array as Molecule Carriers
R. Su, T. Kong, B. Zhang, Q. Song, G. Cheng ... 492

Time Domain Features for Relationship between Speed and Slow Potentials Activity during Periodic Movement and Motor Imagery at Fast and Slow for BCR1
Y. Fu, B. Xu, L. Pei, H. Li ... 498

A Pest Control Model with Periodic Coefficients and Impulses
S. Wang, J. Dou, L. Lu ... 506

Investigating Feedback Loops in Synthetic Neural Networks by a Nonparametric Identification Method
C.-Y. Dong ... 514

Effect of the Extract of *Fructus Tribulii* on Growth of *Lactobacillus Acidophilus*
S. Guowei, J. Luyuan, Q. Tao, C. He, M. Qi ... 523

Production and Characterization of Monoclonal Antibodies against Norfloxacin
J. Jinqing, Z. Haitang, Q. Yonghua, C. Yongyao, W. Ziliang ... 529

Computer-Aided Surgical Simulation and Navigation in Reconstruction of Old Complicated Cranio-maxillofacial Fractures
L. Yanping, C. Xiaojun, Z. Shilei, W.C. Prof, S.G. Prof ... 536

The Predicted 3D Structure of Bitter Taste Receptors, *TAS2R38* based on a BiHelix and SuperBiHelix Methodologies
J. Tan, R. Abrol, B. Trzaskowski, W.A. Goddard III ... 543

Structure-Activity Study of Endomorphins Analogs with C-Terminal Substitution
P. Gong, F. Chen, R. Wang ... 549

Two-Stage Hybrid Classifier Ensembles for Subcellular Phenotype Images Classification
B. Zhang ... 554

Effect of the Extract of *Fructus Tribulii* on Growth of *Lactobacillus Acidophilus*
C. He, J. Zhe, S. Guowei, Q. Tao, M. Qi ... 563

ITS Sequence Analysis of Wild * Auricularia Auricularia * Strains from Heilongjiang Province
T. Pengfei, L. Huajing, X. Xiuhong ... 569

Poincare Mapping: A Potential Method for Detection of T-Wave Alternans
L. lei, J. jie, J. hui-lin, Z. chu-yun, Z. xiao-lei ... 575

PCFenzyme for Kinetic Analyses of Enzyme Reaction Processes
M. Liu, X. Yang, Y. Yuan, J. Tao, F. Liao ... 582

Determination of Fat-Soluble Vitamins in Food and Pharmaceutical Supplements using Packed-Fiber Solid Phase Extraction (PFSPE) for Sample Preconcentration/Clean-Up

Non-Invasive Two-Dimensional Strain Imaging of Atherosclerotic: A Preliminary Study in Carotid Arteries *In Vivo*
Y. Shen, L. Shen, Y.T. Zhang, H. Zheng ... 596

Support Vector Machine Algorithm for Real-Time Detection of VF Signals
C. Zhang, J. Zhao, F. Li, H. Jia, J. Tian ... 602

Spermatogenesis-Related Gene Selection with DNA Microarray Data and Gene Ontology
J. Shi, W. Liu, T. Gong, L. Tao, A. Tang ... 609

The Study of Cytostatic Effect on MCF-7 Cells of the Alcohol Extract of Rhodiola Aligda Var. Tangutica
D. Lu, D. Lu, S. Zhang, X. Wang, J. Zhen ... 615

Effect of Medium Composition on the Synthesis of Chitinase and Chitin Deacetylase from Thermophilic *Pseudomonas Fluctuabilis* sp.Hul
D. De-hui, L. Wei, H.U. Wei-Lian, S.A. Xiao-Ying ... 620

The Ameliorate Effect of Endomorphin I on the Mice Nephrotoxicity Induced by Cadmium
P. Gong, F. Chen, R. Wang ... 629
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyperhaline Municipal Wastewater Treatment of a Processing Zone through Pilot-Scale A/O MBR, Part II: Nitrogen and Phosphorous Removal</td>
<td></td>
</tr>
<tr>
<td>Hyperhaline Municipal Wastewater Treatment of a Processing Zone through Pilot-Scale A/O MBR, Part I: Characteristics of Mixture Liquor</td>
<td></td>
</tr>
<tr>
<td>Risk Assessment of Heavy Metal Contaminated Dagu River Sediments</td>
<td></td>
</tr>
<tr>
<td>Production and Storage of Edible Film using Gellan Gum</td>
<td></td>
</tr>
<tr>
<td>Macroscopic Characteristics of and Criteria for Biological Fixation of Bone Fracture in Chinese Mongolian Osteopathy</td>
<td></td>
</tr>
<tr>
<td>Evaluation of Patient with Myocardial Infarction using Isoenergy Contour Maps of Three-Dimensional Magnetocardiograms</td>
<td></td>
</tr>
<tr>
<td>Construction of Identification System for Alien Chromatin in Crop Plant</td>
<td></td>
</tr>
<tr>
<td>Age-Related Classification and Prediction based on MRI: A Sparse Representation Method</td>
<td></td>
</tr>
<tr>
<td>A Critical Role of Redox State in Determining HL-60 Cell Differentiation</td>
<td></td>
</tr>
<tr>
<td>Study on the Optimum Process Condition of Feather Fermentation using Bacillus Subtilis Mutation Strains</td>
<td></td>
</tr>
<tr>
<td>Neural Network Structure Study in Child Mental Health Disorders Intelligent Diagnosis System</td>
<td></td>
</tr>
<tr>
<td>Pathway Clustering of the Up-Regulated Genes in the Stimulated Rice Seedlings that Germinating from the Seeds Implanted by the Low-Energy Nitrogen Ion</td>
<td></td>
</tr>
<tr>
<td>Relationship of Five Plate Numbers in Chromatography</td>
<td></td>
</tr>
<tr>
<td>Genetic Diversity within and among Populations of <em>Acarus Siro</em> L. Revealed by Inter Simple Sequence Repeats (ISSR)</td>
<td></td>
</tr>
<tr>
<td>Schizophrenic Patients and their Unaffected Siblings Show Similar Abnormalities in Resting-State Functional Connectivity</td>
<td></td>
</tr>
<tr>
<td>Our Membrane Protein DNA Vaccines for Protective Immunity against Virulent Avian Pasteurella Multocida in Chickens</td>
<td></td>
</tr>
<tr>
<td>Analysis of Codon usage Patterns of Tianfu Goose Interferon Alpha</td>
<td></td>
</tr>
<tr>
<td>Increased Posterior Cingulate, Medial Frontal and Decreased Temporal Regional Homogeneity in Depressed Mothers. A Resting-State Functional Magnetic Resonance Study</td>
<td></td>
</tr>
<tr>
<td>Action of <em>Valeriana Jatamansi Jone</em> on the Apoptosis-Related Genes Expression in the Anxiety Model of Rat</td>
<td></td>
</tr>
<tr>
<td>Macroscopic Characteristics of and Criteria for Biological Fixation of Bone Fracture in Chinese Mongolian Osteopathy</td>
<td></td>
</tr>
<tr>
<td>Production and Storage of Edible Film using Gellan Gum</td>
<td></td>
</tr>
<tr>
<td>Risk Assessment of Heavy Metal Contaminated Dagu River Sediments</td>
<td></td>
</tr>
<tr>
<td>Hyperhaline Municipal Wastewater Treatment of a Processing Zone through Pilot-Scale A/O MBR, Part I: Characteristics of Mixture Liquor and Organics Removal</td>
<td></td>
</tr>
<tr>
<td>Hyperhaline Municipal Wastewater Treatment of a Processing Zone through Pilot-Scale A/O MBR, Part II: Nitrogen and Phosphorous Removal</td>
<td></td>
</tr>
</tbody>
</table>