

2009 Second International Conference on Environmental and Computer Science

(ICECS 2009)

**Dubai, United Arab Emirates
28 – 30 December 2009**



**IEEE Catalog Number: CFP0975I-PRT
ISBN: 978-1-4244-5590-4**

2009 Second International Conference on Environmental and Computer Science

ICECS 2009

Table of Contents

Preface

Organizing Committees

Reviewers

Session 1

Environmental Contamination Risks Due to Leaking Underground Fuel Tanks (LUFT) of Gas Stations in AlQassim Region, Saudi Arabia	3
<i>Sherif M. ElKholy, Tarek Ismail Sabry, and Ibrahim S. AlSalamah</i>	
Spatial Variation of CO ₂ Inside Australian Grains Free Air Carbon Dioxide Enrichment (AGFACE) Rings	9
<i>Mahabubur Mollah, Rob Norton, Debra Partington, and Glenn Fitzgerald</i>	
Assessment of a Single-site Daily Rainfall Generator in the Middle East	14
<i>Muamaraldin Mhanna and Willy Bauwens</i>	
Requirements of Software Quality Assurance Model	19
<i>Yas A. Alsultanny and Ahmed M. Wohaishi</i>	
Developing a New Air Pollution Dispersion Model with Chemical Reactions Based on Multiple Cell Approach	24
<i>Ali Alizadeh Osalu, Mohammad Ali Kaynejad, Esmaeil Fatehifar, and Ali Elkamel</i>	
Changes in Water Quality in the Upper Wisła (Vistula) River Basin	29
<i>Damian Absalon</i>	
Prediction of Air Pollution of Boushehr City Using Data Mining	33
<i>Ebrahim Sahafizadeh and Esmail Ahmadi</i>	
Research and Application of a Data-driven Platform for Sustainable Development of Energy, Economy and Environment	37
<i>Wang Xiuquan, Shen Xiaoliu, Tan Zhongfu, Yang Jingjing, and Zhou Ninghui</i>	

Session 2

Air Mass Factor Calculations Based on Support Vector Regression Machine	43
<i>Dong Han, Liangfu Chen, Guojiang Chen, Zifeng Wang, and Shenshen Li</i>	
Contamination Level and Speciation of Heavy Metals in Sediments from Yundang Lake, Xiamen	48
<i>Jing Lin, Minggang Cai, Anxiang Qi, Hongyou Hu, Canrong Qiu, Yun Wang, and Qingquan Hong</i>	
Urban Wetland Ecosystem: Function, Challenge and Strategy	53
<i>Wang Hui, Dong Kaikai, Yang Baoshan, and Ma Zhenmin</i>	
Study of Protein Extraction Technics from Dictyoploca japonica Pupae	57
<i>Yang Baoshan, Wang Hui, Li Jun, and Qin Li</i>	
Simulation and Assessment of Mine Landscape Reconstruction Using Analogue Landform and Environmental Design Criteria	62
<i>Ian D. Hollingsworth and Inakwu O.A. Odeh</i>	
Analyses of the Impact of Learning Styles and Strategies of Learners in Distance Education: Educational Issues into Digital Opportunities	66
<i>Alajdin Abazi, Bekim Fetaji, and Majlinda Fetaji</i>	
Rule Inducted Models for Classifying Water Quality Using Diatoms as Bio-indicators	71
<i>Andreja Naumoski and Kosta Mitreski</i>	
Data Management for the Water Monitoring System of Lake Prespa	76
<i>Sanja Veleva and Kosta Mitreski</i>	
Computer Design and Simulation of Built Environment; Application to Forest	81
<i>Amirhosein Mosavi</i>	
Bayesian Modelling Volatility of Growth Rate in Atmospheric Carbon Dioxide Concentrations	86
<i>Esmail Amiri</i>	

Session 3

Performance Evaluation of Motion Estimation on TMS320DM642	93
<i>Sarika Chaudhary</i>	
Modeling the Optimal Environment Service Payment for Afforestation Program	96
<i>Wan-Yu Liu, Chun-Cheng Lin, and Kuo-Ching Lin</i>	
Search Results Clustering Using Nonnegative Matrix Factorization (NMF)	101
<i>Vaclav Snasel and Hussam Dahwa Abdulla</i>	
Enhanced Data Security Framework for Storage Area Networks	105
<i>P. Mahalingam, N. Jayaprakash, and S. Karthikeyan</i>	
A Comparison between UML Tools	111
<i>Lena Khaled</i>	

Modeling of Imidaclopride Adsorption on Granular Activated Carbon Using Artificial Neural Network	115
<i>Ali Khani, Mortaza Mirzaei, and Abbas Nemati</i>	
Modeling of Nitrite Adsorption on Granular Activated Carbon Using Artificial Neural Network	118
<i>Abbas Nemati, Ali Khani, and Mortaza Mirzaei</i>	
Anzali Wetland Hydrology Monitoring to Detect the Effects of Land Use and Climate Change	122
<i>Elahe Ebrahimi, Yuosef Filizadeh, and Kamran Asgari</i>	
Image Fusion Using Computational Intelligence: A Survey	128
<i>Humayun Irshad, Muhammad Kamran, Abdul Basit Siddiqui, and Ayyaz Hussain</i>	
The Design and Implementation of a Stress Tool for Traffic Infraction Registration System	133
<i>Habibollah Arasteh Rad, Khairulmizam Samsudin, Abdul Rahman Ramli, and Mohamad Bagher Tehrani</i>	

Session 4

Swarm Intelligence for the Solution of Problems in Differential Equations	141
<i>Junaid Ali Khan, Raja Muhammad Asif Zahoor, and Ijaz Mansoor Qureshi</i>	
Simulation and Analysis of Self-Similar Network Traffic Using WBFGN	148
<i>Akhter Raza Syed, S.M. Aqil Burney, and Afzal Saleemi</i>	
Simulation of Evapotranspiration and Vadose Zone Hydrology Using Limited Soil Data: A Comparison of Four Computer Models	152
<i>Isa Yunusa, Rhys Whitley, Melanie Zeppel, and Derek Eamus</i>	
Finding an Unknown Object by Using Piezoelectric Material: A Finite Element Approach	156
<i>Aydin Azizi, Laaleh Dourali, Shahin Zareie, and Farid Parvari Rad</i>	
Mathematical Modeling of Deflection of a Beam: A Finite Element Approach	161
<i>Aydin Azizi, Laaleh Dourali, Shahin Zareie, and Farid Parvari Rad</i>	
Control of Vibration Suppression of an Smart Beam by Pizoelectric Elements	165
<i>Aydin Azizi, Laaleh Dourali, Shahin Zareie, and Farid Parvari Rad</i>	
Lambda Characterization of Diesel-CNG Dual Fuel Engine	170
<i>R.R. Saraf, S.S. Thipse, and P.K. Saxena</i>	
Wavelet Polynomial Autoregression for Monthly Bigeye Tuna Catches Forecasting	175
<i>Nibaldo Rodriguez</i>	
Landscape Pattern Dynamics and Environmental Impacts Based on RS Image	179
<i>Mingliang Zhang</i>	
A Mathematical Model of Troposphere Water Vapor Tomography	183
<i>Peep Miidla, Kalev Rannat, and Peep Uba</i>	

Session 5

A Simulated Annealing Approach for Maximizing the Accrued Utility of an Isochronal Soft Real-Time System	191
<i>Ali Asghar Pourhaji Kazem, Neda Dadashkhani, Mehdi Kargahi, and Hamed Habibi Aghdam</i>	
Text Categorization Method Based on Fuzzy Correlation Analysis	196
<i>Donghong Fan and Lixia Song</i>	
An Algorithm for Detecting Similar Data in Replicated Databases Using Multi Criteria Decision Making	199
<i>Vahide Baradaran Sorkhabi, Mohamad-Reza Feizi Derakhshi, and Hadi Shahamfar</i>	
A Simple and Highly Secure Protocol for POS Terminal	204
<i>Habibollah Arasteh Rad, Mohamad Bagher Tehrani, Khairulmizam Samsudin, and Abdul Rahman Ramli</i>	
Multi-Functional and Biological Reliability of Wetlands	208
<i>N. Jafari</i>	
Caspian Sea Requirements Effectual Pollution Controls	211
<i>Naser Jafari</i>	
New Approach to Prevent Burning Crop Residue by Creating Residue Mulch	215
<i>Hossein Sadeghi and Mohammad Jafar Bahrani</i>	
A Study on Indoor/Outdoor Concentration of Particulate Matter in Rural Residential Houses in India	218
<i>David Daneesh Massey, Aditi Kulsrestha, and Ajay Taneja</i>	
Capture and Storage of Carbon Dioxide in Iranian Geological Formations	224
<i>Kamyar Movagharnajad, Azadeh Emamgholivand, and Hamed Mousavi</i>	
Effect of Temperature on Isotherm Modeling for Dye Removal by Walnut Shell Powder	228
<i>Reza Fazaeli, Mahboobeh Manoochehri, and Ameneh Khorsand</i>	

Session 6

Removal of Direct Red 81 from Aqueous Solution Using Plane Tree Yellow Leaves	233
<i>R. Fazaeli, N. Niksirat, M. Manoochehri, and A. Khorsand</i>	
Modeling Catalytic Converter for Oxidation of Hydrocarbon in the Exhaust Gas	236
<i>Sanchita Chauhan and V.K. Srivastava</i>	
A Computer Model for Simulating Sunflower Growth and Yield	240
<i>Abdolghayoum Gholipouri, Mohammad Sedghi, Raouf Seyed Sharifi, and Amir Heydari</i>	
A Survey on Salmonella of Working Tools and Storage Area of Meat/Chicken Stores in Iran (Amol)	245
<i>Rabehe Izadi Amoli, Peiman Ariaii, Mahroo Esmaeli, and Fateme Zaboli</i>	

Decision Support System Reflecting Human-Environment Interactions in an Urban Context: A Case Study	250
<i>Farideh Delavari-Edalat and M. Reza Abdi</i>	
Bioinformatics Analyses of Deinococcus Radiodurans in Order to Waste Clean Up	254
<i>Mohammad Sadraeian and Zeynab Molaei</i>	
Investigation and Selection of the Suitable Method in Providing Soil-Water Surface Erosion Map	259
<i>Ali Mohammadi Torkashvand and M. Hamidi Tabar</i>	
Estimation of Gaseous Pollutant from Gas Sweetening Plants by Emission Factors (An Iranian Case Study)	263
<i>Davood Kahforoushan, Esmaeil Fatehifar, Ali Elkamel, Aram Zoveydavi, and Abbas Jafarizad</i>	
Spray Drying of Roselle-Pineapple Juice Effects of Inlet Temperature and Maltodextrin on the Physical Properties	267
<i>Ahmad Farimin Ahmad Osman and Nordin Endut</i>	
Determination of Arsenic and Other Heavy Metals in Hand Pump and Tube-Well Ground Water of Khairpur, Sindh, Pakistan	271
<i>Mushatque Ali Jakhrani, Abdul Jabbar Chaudhray, Khan Muhammad Malik, Muhammad Qasim Mazari, Ashfaque Ahmed Jakhrani, and Mukhtar ul-Hassan</i>	

Session 7

Study on Migration Prediction of Petroleum Hydrocarbon Contaminants in Groundwater System	279
<i>Li Lingling, Ma Zhenmin, and Zhang Liang</i>	
Semantic Integration of Environmental Web Services in an Organization	284
<i>Bharti Trivedi and Bhuvan Unhelkar</i>	
Exploration Assessment of the Service Distance Based on Geographical Information Systems and Space Syntax Analysis on the Urban Public Facility	289
<i>Liao Chin-Hsien and Chang Hsueh-Sheng</i>	
Land Use Change Modeling (With Special Reference to Bandung Region)	293
<i>Lia Warlina</i>	
A Study of Sustainable Spatial Planning on Regional Farmland Using GIS	298
<i>Chang Hsueh-Sheng, Po-Chun Chen, and Ling-Ying Chiang</i>	
Study on Distribution Characteristics of Sediment at the Estuary and Along Kuala Terengganu River	303
<i>Mohammad Fadhli Ahmad, Sunny Goh Eng Giap, Wab Mohd Norsani Wan Nik, and Natrah Jamaluddin</i>	
Control of Claus Unit Tail Gas in an Oil Refinery	309
<i>Layla Khazini, Esmaeil Fatehifar, Mohammad Ali Kaynejad, Reza Alizadeh, and Ali Elkamel</i>	

Quality Improvement of Recycled Plastic Products Using Mixture Experiment	312
<i>Charnnarong Saikaew and Panita Sripaya</i>	

The Combination of HEC-Geo-HMS, HEC-HMS and MIKE11 Software	
Utilize in a Two Branches River Flood Routing Modeling	317

Ehsan Ranaee, Mohammad Mahmoodian Shoushtari, and Saeed Rahati Quchani

Significance of Remediation Time on the Optimal Remediation Design of Contaminated Aquifers	322
<i>Thangjam Somchand Singh and Dibakar Chakrabarty</i>	

Session 8

Health Management Based Design and Implementation of HCI for Embedded System	329
---	-----

Qiurong Wang, Ningshe Zhao, and Xiaohong Wang

Limitations of Quantum & the Versatility of Classical Cryptography: A Comparative Study	333
--	-----

R. Sakthi Vignesh, S. Sudharssun, and K.J. Jegadish Kumar

Microbiological Examination of Column Water in Kuala Terengganu <i>W.B. Wan Nik, M. Nazroon, M.F. Ahmad, and M.M. Rahman</i>	338
---	-----

Number Patterns & Geometric Representation of Deoxyribonucleicacid	343
--	-----

Naila Rozi and Nasir Uddin Khan

Grazing Behaviour and Plants Preference for Different Ages of Zandi Ewes in Steppe Rangelands of Qom (Iran)	345
--	-----

A. Ahmadi

The Application of Distributed Computing by Webgis to the RS Image	351
--	-----

Mingsheng Kuang and Honghai Kuang

A New Approach of Efficient Soft Handover Management for Proposed UMTS Network Architecture	353
--	-----

*Md. Golam Sarwar Bhuyan, Md. Shirazul Hoque Mollah, Zemam Ahmad,
and Syed Maftahur Rahman*

A Study on the Numerical Values of the Thermophysical Properties for the Eight Single Gases He, N ₂ , O ₂ , Xe, CO ₂ , CH ₄ , CF ₄ , and SF ₆ at Two Film Temperatures 300 K and 600 K for Laminar Boundary Layer Flow over a Flat Plate	356
---	-----

Mohammad Reza Mobinipouya and Mohammad Mehdi Papari

An Investigation on Efficiency of MTBE Removal from Water by Adsorption to Porous Soil	360
---	-----

Hamidreza Kamalan, Afshin Khoshand, and Bardia Tabiatnejad

An Enhanced Infrastructure for Peer-to-Peer Intrusion Detection Systems	364
---	-----

Golnaz Vakili and Mehdi Shahri

Session 9

Efficient Finite Element Modeling of Shallow Geothermal Systems	371
<i>Rafid Al-Khoury</i>	
Analysis of a Mathematical Model for Worm Virus Propagation with Time Delay	375
<i>Wang Shaojie, Liu Qiming, Dang Bo, and Ma Weinig</i>	
Stability Prediction of Tailing Dam Slope Based on Neural Network Pattern Recognition	380
<i>Ke-ping Zhou and Zhi-qiang Chen</i>	
Mineral Potential Prediction Using Hybrid Intelligent Approach	384
<i>Siti Z.Z. Abidin, Norzilah Musa, Suhaimi Sulaiman, and Mohamad Zamani Zainal Abiden</i>	
An Investigation of the Efficiency of a Non-Ionic Surfactant to Remove Flourene and Phenanthrene from Crude Oil Contaminated Soil	389
<i>Seyed Hossein Andalib Moghadam, Bardia Tabiatnejad, and Afshin Khoshand</i>	
A New Approach to Improve Quality of Service in SPEED Routing Protocol in Wireless Sensor Network through Data Aggregation	393
<i>Rassoul Roustaei, Ebadolah Zohrevandi, Keramat Hassani, and Ali Movaghar</i>	
Prevalence of Plasmid Mediated Multi Drug Resistant Enterobacteriaceae in Hospital Environment at Bangalore, India	398
<i>Seema Tharannum, Nithya J., and Manjula T.S.</i>	
Simulation of Convection Heat Transfer in Thermal Flow Reversal Reactor for Lean Methane Oxidation	403
<i>Gao Zhenqiang, Wang Chengguan, Liu Yongqi, and Liu Ruixiang</i>	
Prediction of Population Dynamics of Bacillariophyta in the Tropical Putrajaya Lake and Wetlands (Malaysia) by a Recurrent Artificial Neural Networks	407
<i>Sorayya Malek, Aishah Salleh, and Mohd. Sapiyan Baba</i>	
Effective Parameters on Performance of Microbial Fuel Cell	411
<i>Rahimnejad M., Nader Mokhtarian, Ghasem Najafpour, Ali Asghar Ghoreyshi, and Wan Ramli Wan Dahud</i>	

Session 10

Data Bank Design of Current Pests of Wheat and Barely Based on Iranian Environment	419
<i>Maryam Sadeghi</i>	
Planning and Evaluating of Forest Roads Network with Respect to Environmental Aspects via GIS Application (Case Study: Shafaroud Forest, Northern Iran)	424
<i>Ramin Naghdi and Razieh Babapour</i>	
Intelligent Control Using Online Stability-Based Knowledge Representation	428
<i>Ma Yunpeng</i>	

Accountants and Technologies: Knowledge Management Model	432
<i>Kalsom Salleh</i>	
Bounding-Volume Hierarchies Technique for Detecting Object Interference in Urban Environment Simulation	436
<i>Hamzah Asyrani Sulaiman, Abdullah Bade, and Norhaida Mohd Suaib</i>	
Mobile Operated Anti-Snoring Pillow	441
<i>Rajendra Suryawanshi, Shashikant D. Gunjal, and Amole S. Pote</i>	
Cu, Zn and Sn Vertical Distribution in Sediment Cores from the Elefsis Gulf (Attiki-Greece)	445
<i>Fani Sakellariadou, Manos Ladakis, and Luke Haralambides</i>	
Finding Association of Impact Factor for Breast Cancer Patient - A Novel Statistical Approach	449
<i>Kwok-Pan Pang and A.B.M. Shawkat Ali</i>	
A Survey of Fault Tolerance Techniques in Mobile Agents and Mobile Agent Systems	454
<i>Farzana Yousuf and Zahid Zaman</i>	
Study of Congestion & Noise Caused by Land Transport in the City of Batna, Algeria	459
<i>Naziha Guehtar and Asma Saidi</i>	

Author Index