Selected papers from WSEAS Conferences

University of Cambridge (UK),
University of Harvard (USA),
Massachusetts Institute of Technology -- MIT (USA),
China Jiliang University (China),
Beijing Jiaotong University (China),
Univ. Politecnica of Bucharest (Romania),
Technical University of Sofia (Bulgaria),
Tianjin University of Technology and Education (China),
Zhejiang Univ. of Technology (China),
University of Alcala, Madrid (Spain),
University of Cantabria, Santander (Spain),
Budapest Tech (Hungary),
University of La Laguna (Spain),
Politehnica University of Timisoara (Romania)
"This book contains important selected papers from WSEAS Conferences organized in the University of Cambridge (UK), University of Harvard (USA), Massachusetts Institute of Technology -- MIT (USA), China Jiliang University (China), Beijing Jiaotong University (China), Univ. Politecnica of Bucharest (Romania), Technical University of Sofia (Bulgaria), Tianjin University of Technology and Education (China), Zhejiang Univ. of Technology (China), University of Alcalá, Madrid (Spain), University of Cantabria, Santander (Spain), Budapest Tech (Hungary), University of La Laguna (Spain), Politehnica University of Timisoara (Romania)"
"This book contains important selected papers from WSEAS Conferences organized in the University of Cambridge (UK), University of Harvard (USA), Massachusetts Institute of Technology -- MIT (USA), China Jiliang University (China), Beijing Jiaotong University (China), Univ. Politecnica of Bucharest (Romania), Technical University of Sofia (Bulgaria), Tianjin University of Technology and Education (China), Zhejiang Univ. of Technology (China), University of Alcalá, Madrid (Spain), University of Cantabria, Santander (Spain), Budapest Tech (Hungary), University of La Laguna (Spain), Politehnica University of Timisoara (Romania)"

Published by WSEAS Press
www.wseas.org

Copyright © 2010, by WSEAS Press

All the copyright of the present book belongs to the World Scientific and Engineering Academy and Society Press. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the Editor of World Scientific and Engineering Academy and Society Press.

All papers of the present volume were peer reviewed by two independent reviewers. Acceptance was granted when both reviewers' recommendations were positive.
See also: http://www.worldses.org/review/index.html

ISSN: 1792-6882
"This book contains important selected papers from WSEAS Conferences organized in the University of Cambridge (UK), University of Harvard (USA), Massachusetts Institute of Technology -- MIT (USA), China Jiliang University (China), Beijing Jiaotong University (China), Univ. Politecnica of Bucharest (Romania), Technical University of Sofia (Bulgaria), Tianjin University of Technology and Education (China), Zhejiang Univ. of Technology (China), University of Alcala, Madrid (Spain), University of Cantabria, Santander (Spain), Budapest Tech (Hungary), University of La Laguna (Spain), Politechnica University of Timisoara (Romania)"

Editors:
Prof. Nikos Mastorakis, Technical University of Sofia, BULGARIA / Hellenic Naval Academy, GREECE
Prof. Metin Demiralp, Istanbul Technical University, TURKEY
Prof. Valeri M. Mladenov, Technical University of Sofia, BULGARIA

Editor-in-Chief:
Prof. Nikos Mastorakis, Technical University of Sofia, BULGARIA / Hellenic Naval Academy, GREECE

Editorial Board:
Prof. Siavash H. Sohrab, Northwestern University, Evanston, Illinois, USA
Prof. Mikhail Wasylyk, University of Central Florida, USA
Prof. Slobodan I. Babic, Ecole Polytechnique de Montreal, CANADA
Prof. Yiming Li, National Chiao Tung University, Hsinchu 300, TAIWAN
Prof. Petr Y. Ekel, Pontif. Cathol. Univ. of Minas Gerais, 30535-610, Belo Horizonte, BRAZIL
Prof. Tuan Pham, James Cook University, Townsville, QLD 4811, AUSTRALIA
Prof. M. Isabel Garcia-Planas, Univ. Polit. de Catalunya, C.Mineria 1, 08038, Barcelona, SPAIN
Prof. Demetrios Kazakos, Texas Southern University, 3100 Cleburne Str., Houston, Texas 77004, USA
Prof. Olga Martin, University Politehnica of Bucharest, ROMANIA
Prof. José Mª Zamanillo Sáinz de la Maza, University of Cantabria, SPAIN
Prof. Alexander Zemliaik, Puebla Aut. Univ. Av. San Claudio s/h, Ciudad, Puebla, Pue, 72570, MEXICO
Prof. Jose Carlos Quadrado, Electrical Engineering Department, ISEL, Lisbon, PORTUGAL
Prof. Pablo Luis López Espi, Universidad de Alcalá, SPAIN
Preface

This book contains important selected papers from WSEAS Conferences organized in the University of Cambridge (UK), University of Harvard (USA), Massachusetts Institute of Technology -- MIT (USA), China Jiliang University (China), Beijing Jiaotong University (China), Univ. Politecnica of Bucharest (Romania), Technical University of Sofia (Bulgaria), Tianjin University of Technology and Education (China), Zhejiang Univ. of Technology (China), University of Alcala, Madrid (Spain), University of Cantabria, Santander (Spain), Budapest Tech (Hungary), University of La Laguna (Spain), Politehnica University of Timisoara (Romania)

The contents of this Book will be sent to the WSEAS collaborating indices after the conference: www.worldses.org/indexes

The contents of this Book are also published in CD-ROM. Both will be sent to the WSEAS collaborating indices after the conference: www.worldses.org/indexes

The friendliness and openness of the WSEAS conferences, adds to their ability to grow by constantly attracting young researchers. The WSEAS Conferences attract a large number of well-established and leading researchers in various areas of Science and Engineering as you can see from http://www.wseas.org/reports. Your feedback encourages the society to go ahead as you can see in http://www.worldses.org/feedback.htm

Expanded and enhanced versions of papers published in this conference proceedings are also going to be considered for possible publication in one of the WSEAS journals that participate in the major International Scientific Indices (Elsevier, Scopus, EI, ACM, Compendex, INSPEC, CSA .... see: www.worldses.org/indexes) these papers must be of high-quality (break-through work) and a new round of a very strict review will follow. (No additional fee will be required for the publication of the extended version in a journal). WSEAS has also collaboration with several other international publishers and all these excellent papers of this volume could be further improved, could be extended and could be enhanced for possible additional evaluation in one of the editions of these international publishers.

Finally, we cordially thank all the people of WSEAS for their efforts to maintain the high scientific level of conferences, proceedings and journals.
# Table of Contents

Chapter 1:

The Simple Genetic Algorithm with Alpha-Selection, Uniform Crossover and Bitwise Mutation  
*Andre Neubauer*

Chapter 2:

Safety of Masonry Arch Bridges: A Quick Scan Method  
*A. Audenaert, G. Reniers, W. Dullaert, H. Peremans*

Chapter 3:

Moving Surface Reconstruction by Self Organization  
*M. V. Bessmeltsev*

Chapter 4:

Highest Label Preflow Algorithm for the Parametric Minimum Flow Problem - A Linguistic Rule-Based Network Partitioning Approach  
*L. Sangeorzan, M. N. Parpalea, M. M. Parpalea*

Chapter 5:

Information Process in the Biosensor of the Angular Motion of the Head  
*V. V. Alexandrov, T. B. Alexandrova, G. Castillo-Quiroz, A. Ortega, R. Vega, N. Shulenina, G Sidorenko, E. Soto*

Chapter 6:

Numerical Analysis of Electromagnetic (EM) Absorption Reduction by using Material Attachment  
*M. R. I. Faruque, M. T. Islam, N. Misran*

Chapter 7:

Comparison of a Pressure Correction based Solver VoF Method in Moving Floor Container  
*R. Ghandriz, M. Goudarzi*

Chapter 8:

Possibilities of Air Quality Modelling based on IF-Sets Theory  
*V. Olej, P. Hajek*

Chapter 9:

Reduction Method with Finite-Difference Approximation for the Model of Small Transverse Vibrations in Thin Elastic Plates and some Applications  
*A. A. Kuleshov*
Chapter 10:

Principal Component Analysis for Pose Estimation using Range Data
Galina Okouneva, Donald J. McTavish, Aradhana Choudhuri

Chapter 11:

A Parametric Approach to Matrix Root Clustering
V. G. Melnikov

Chapter 12:

Towards a Deterministic Model for Course Timetabling
P. Pozos-Parra, O. Chavez-Bosquez, J. L. Gomez Ramos

Chapter 13:

Periodic Flows Associated with Solutions of Hill Equation
G. Bognar, S. H. Sohrab

Chapter 14:

Simulation Model of the JPEG Sub-Image Compression based on an Upgraded Petri Net
P. Strbac, M. Tuba

Chapter 15:

Kashif Saleem, Norsheila Fisal, M. Ariff Baharudin, Adel Ali Ahmed, Sharifah Hafizah, Sharifah Kamilah

Chapter 16:

Characterization of all Optimal Flows in Networks
L. Ciupala, E. Ciurea

Chapter 17:

Parameterization to avoid the Gibbs Phenomenon
E. Chicurel-Uziel

Chapter 18:

Multi Party Computation using Infinite Product Series over Distributed Data
Abdolreza Rasouli, Mohd Aizaini Maarof, Mahboubeh Shamsi

Chapter 19:

A Method of Extended Linearization for Polynomial Periodic and Autonomous Systems
V. G. Melnikov
Chapter 20:

Power Transmission Line Magnetic Fields for different Phase Arrangements  
L. Neamt, L. E. Petrean, O. Chiver, Z. Erdei

Chapter 21:

An Ellipse Framework for Precise Iris Edge Detection  
Mahboubeh Shamsi, Puteh Bt Saad, Subariah BT Ibrahim, Abdolreza Rasouli

Chapter 22:

Adaptive, Model-Following Chaos Suppression and Synchronization  
J. Kabzinski

Author Index
Author Index

A
Alexandrov V. V., 53
Alexandrova T. B., 53
Ali Ahmed A., 163
Ariff Baharudin M., 163
Audenaert A., 21

B.
Bessmeltsev M. V., 32
Bognar G., 143

C.
Castillo-Quiroz G., 53
Chavez-Bosquez O., 132
Chicurel-Uziel E., 184
Chiver O., 214
Choudhuri A., 109
Ciupala L., 174
Ciureka E., 174

D.
Dullaert W., 21

E.
Erdei Z., 214

F.
Fisal N., 163

G.
Ghandriz R., 71
Gomez Ramos J. L., 132
Goudarzi M., 71

H.
Hafizah S., 163
Hajek P., 88

I.
Iqbal Faruque M. R., 61
Islam M. T., 61

K.
Kabzinski J., 235
Kamilah S., 163
Kuleshov A., 99

M.
Maarof M. A., 194
McTavish D. J., 109
Melnikov V. G., 122, 205
Misran N., 61

N.
Neamt L., 214
Neubauer A., 10

O.
Okouneva G., 109
Olej V., 88
Ortega A., 53

P.
Parpalea M. M., 42
Parpalea M. N., 42
Peremans H., 21
Petrean L. E., 214
Pozos-Parra P., 132

R.
Rasouli A., 194, 225
Reniers G., 21

S.
Saad P. B., 225
Saleem K., 163
Sangeorzsan L., 42
Shamsi M., 194, 225
Shulenina N., 53
Sidorenko G., 53
Sohrab S. H., 143
Soto E., 53
Strbac P., 153
Subariah I. B., 225

T.
Tuba M., 153

V.
Vega R., 53