Editor
Valeri Mladenov

Mathematical and Computational Methods in Electrical Engineering

Mathematical and Computational Methods in Electrical Engineering

- **Proceedings of the 15th International Conference on Signal Processing, Computational Geometry and Artificial Vision (ISCGAV '15)**
- **Proceedings of the 14th International Conference on Telecommunications and Informatics (TELE-INFO '15)**
- **Proceedings of the 2nd International Conference on Power and Energy Systems (POES '15)**

Sliema, Malta, August 17-19, 2015

Recent Advances in Electrical Engineering Series | 53

MATHEMATICAL and COMPUTATIONAL METHODS in ELECTRICAL ENGINEERING

Proceedings of the 15th International Conference on Signal Processing, Computational Geometry and Artificial Vision (ISCGAV '15)

Proceedings of the 14th International Conference on Telecommunications and Informatics (TELE-INFO '15)

Proceedings of the 2nd International Conference on Power and Energy Systems (POES '15)

Sliema, Malta
August 17-19, 2015

Recent Advances in Electrical Engineering Series | 53

ISSN: 1790-5117
ISBN: 978-1-61804-329-0

MATHEMATICAL and COMPUTATIONAL METHODS in ELECTRICAL ENGINEERING

Proceedings of the 15th International Conference on Signal Processing, Computational Geometry and Artificial Vision (ISCGAV '15)

Proceedings of the 14th International Conference on Telecommunications and Informatics
(TELE-INFO '15)

Proceedings of the 2nd International Conference on Power and Energy Systems (POES '15)

Sliema, Malta
August 17-19, 2015

Published by WSEAS Press
www.wseas.org

Copyright © 2015, 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 no less that two independent reviewers. Acceptance was granted when both reviewers' recommendations were positive.

ISSN: 1790-5117
ISBN: 978-1-61804-329-0

MATHEMATICAL and COMPUTATIONAL METHODS in ELECTRICAL ENGINEERING

Proceedings of the 15th International Conference on Signal Processing, Computational Geometry and Artificial Vision (ISCGAV '15)

Proceedings of the 14th International Conference on Telecommunications and Informatics (TELE-INFO '15)

Proceedings of the 2nd International Conference on Power and Energy Systems (POES '15)

Sliema, Malta
August 17-19, 2015

Editor:
Prof. Valeri Mladenov, Techical University of Sofia, Bulgaria

Committee Members-Reviewers:
Ragab Abdulaziz El Sehiemy
Liang Zhou
Lungu Mihai Aureliu
Ionel Botef
Lubnen Moussi
Manuela Panoiu
Jenica Ileana Corcau
Petr Hajek
Valeriy Perminov
Hakan Tozan
Emre Kiyak
Elena Mereuta
Pavel Varacha
Kanwarjit Singh Sandhu
Jacek Kolodziej
Kamran Mohajeri
Jan Ochodnicky
Joao Carmo
Jose Ignacio Hernandez Lopez
Tiberiu Socaciu
Arjuna Marzuki
Haitham Jabbar Taha Haitham
Paresh Rathod
Michael H. Schwarz
Mokhtari Fouad
Hamidreza Hoshyarmanesh
Hari Moha Pandey
Ioan Enescu
Ankit Patel
Nikos Loukeris
A. Arul Lawrence Selvakumar
Hanmin Jung
Ashish Umre
Sudhir Dawra
Christian von Lucken
Ashish Seth
Carlos Manuel Travieso-Gonzalez
Bharat Bhushan Agarwal
Ala Hamarsheh
Mrityunjay Kumar Ray
Bagavathi Nagarajan
Carlos Pampulim Caldeira
Azlinah Mohamed
Anca Croitoru
Boja Catalin
Sanjeev Pippal
Mohammad Alanazi
Athina Lazakidou
Codrin-Florentin Nisioiu
Alireza Moghaddam Nia
Angel F Tenorio
Hsia Chih-Hsien
Tsvetanka Georgieva-Trifonova
Vasilis Christofilakis
Arianit Maraj
Amjad Daoud
Mohammad Al-Amri
Akash Punhani
Arash Habibi Lashkari
Babak Babak Bashari Rad
Brunonas Dekeris
Mihai Cruceru
Dan Florentin Lascu
Amirhossein Fereidountabar
Andrzej Zak
Bahaa Kazem
Vipul Arvindbhai Shah
Ali Hennache
Ahmed N. Abdalla
Vignesh Subbian
Diariy R. Sulaiman
Baburao Kodavati
Yee Jiun Yap
Cristian Fosalau
Christos Volos
Dinko Vukadinovic
Alina Badulescu
Murugan Paramasivam
Dimitrios Ventzas
Dhananjay Singh

Table of Contents

Preliminary Theoretical Study about a "Piezoelectric Shingle" for a Piezoelectric Energy Harvesting System in Presence of Rain 9
Romeo Di Leo, Massimo Viscardi, Gianluca Ferrini, Leonardo Lecce

3D Object Modeling by Structured Light and Stereo Vision 18
Uğur Özenç, Oğuzhan Taştan, M. Kemal Güllü

Boiling on Sprinkled Tube Bundle 23
Petr Kracík, Michal Špiláček, Marek Baláš, Jiří Pospíšil

Design of Microstrip Antenna with Greater Bandwidth at Frequencies of GHz and THz 30
Humberto Cesar Chaves Fernandes, Tarcisio Da Silva Barreto, Otávio Paulino Lavor

Managing Network Resources with Flow (De) Multiplexing Protocol 35
Eugene Chemeritskiy, Eugene Stepanov, Ruslan Smeliansky

Comparison of Atmospheric Fluid Bed Gasification of Woody and Non-Woody Biomass Fuels 44
Martin Lisý, Marek Baláš, Michal Špiláček, Zdeněk Skála

Experimental Study of Effectiveness of Blood Cells Recognition for Acute Leukemia Diagnosis 49
V. G. Nikitaev, O. V. Nagornov, A. N. Pronichev, E. V. Polyakov, V. V. Dmitrieva

Touch Panel Design for KNX Home Automation System 54
Ahmet Burak Gökbayrak, Semavi Akin, Oğuzhan Urhan

High Performance CUDA Based CNN Image Processor 58
George Valentin Stoica, Radu Dogaru, Elena Cristina Stoica

Modeling of Pollutant Dispersion Released from Line Source in Small Urban Areas 63
Jiri Pospisil, Michal Spilacek, Martin Lisy

Chicken Dung - is a Renewable Fuel. The Use of Thermal Pre-Treatment (Torrefaction) to Improve the Characteristics of this Fuel 70
Rafail Isemin, Oleg Milovanov, Alexander Mikhalev, Dmitry Klimov, Ekaterina Artyukhina, Vladimir Kosov, Vladimir Sinelschikov

Conversion of English Text- To- Speech (TTS) Using Indian Speech Signal 75
R. Shantha Selva Kumari, R. Sangeetha

A Theoretical Review on IT Project Success/Failure Factors and Evaluating the Associated Risks 80
Hamed Taherdoost, Abolfazl Keshavarzsaleh

Comparative Study of the Radiation Performance between Uniform and Non-uniform Excitation of Linear Patch Antenna Array for UWB Radar Applications 89
Abdellatif Slimani, Saad Dosse Bennani, Ali El Alami, Houda Harkat

Secret Sharing in Visual Cryptography Using NVSS and Data Hiding Techniques 96
Misha Ann Alexander, Sanjay Waykar

Querying DBpedia Using HIVE-QL 102
Ahmed Salama Ismail, Haytham Al-Feel, Hoda M. O. Mokhtar

An Efficient Descriptor for Image Retrieval: Application to COIL-100 Database 109
El Asnaoui Khalid, Chawki Youness, Aksasse Brahim, Ouanan Mohammed

The Roadmap for the Arabic Chapter of DBpedia 115
Haytham Al-Feel

Islanding Detection in Hybrid DG Based IEEE 14 Bus System Using Negative Sequence Component Analysis 126
Bhupendra Paliwal, C. S. Rajeshwari, Anjali Potnis

A Novel Radar Signal Recognition Method Based on Deep Learning 133
Dongqing Zhou, Xing Wang, Yuanrong Tian, Ruijia Wang

Comparative Analysis of Wavelet Thresholding for Image Denoising Using Discrete Wavelet Transform 140
Anjaly Chauhan

Geometry of the Curve Using Nodes Combination with Probability Distribution 147
Dariusz Jacek Jakóbczak

A Novel Processing Chain for Shadow Detection and Pixel Restoration in High Resolution Satellite Images Using Image Imposing 153
A. Mydheen Jasmine, S. Allwin Devaraj

Interactive Image Search for Mobile Devices 160
Komal V. Aher, Sanjay B. Waykar

Certificate Revocation to Cope with False Accusations in Ad Hoc Networks 166
K. Thamizhmaran

Authors Index 172