

2017 14th International Conference on Engineering of Modern Electric Systems (EMES 2017)

**Oradea, Romania
1-2 June 2017**



**IEEE Catalog Number: CFP17A89-POD
ISBN: 978-1-5090-6074-0**

**Copyright © 2017 by the Institute of Electrical and Electronics Engineers, Inc
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP17A89-POD
ISBN (Print-On-Demand):	978-1-5090-6074-0
ISBN (Online):	978-1-5090-6073-3

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

Author(s)	Paper Title
M. Kayri, I. Kayri, M. T. Gencoglu	<i>The Performance Comparison of Multiple Linear Regression, Random Forest and Artificial Neural Network by using Photovoltaic and Atmospheric Data</i> 1
M. Popa	<i>Optimization of a RF-Applicator</i> 5
C.-C. Mihai, D. Secuianu, A. Vulpe, C. Lupu	<i>Implementing High Performance System Simulators using Modern Graphics Rendering Devices. Implementing system control algorithms on graphics hardware</i> 9
L. Czumbil, Ș. F. Braicu, D. D. Micu, D. Șteț, A. Ceclan	<i>Analysis of Load Flow and Short-Circuit Issues in a Retrofitted 110/20 kV Romanian Substation</i> 13
L. Bandici, S. Vicaș, G. E. Bandici, A. C. Teușdea, D. Popa	<i>The Effect of Pulsed Electric Field (PEF) Treatment on the Quality of Wine</i> 17
D. A. Hoble, C. O. Stașac	<i>Study of the Thermic Effects in the Electric Contacts Subject to the Vibratory Movements</i> 23
D. Purcaru, I. M. Gordan, A. Purcaru	<i>Testing and Monitoring Ultrasonic Sensors for Engineering Education on Electronic Measurements</i> 29
A. C. Teușdea, S. Vicaș, L. Bandici, G. E. Bandici	<i>The Use of the High-Frequency Electromagnetic Field (MW) and of the Pulsed Electric Field (PEF) for the Extraction of Bioactive Compounds from Grapes</i> 33
L. I. Dulău, D. Bică	<i>Simulation of Smart Grid Power Dispatch</i> 37
R. Valiev, S. Gusev, V. Oboskalov	<i>Mathematical Models and Optimal Load Shedding Strategies for Power System Generation Adequacy Problem</i> 41
C. Nemeș, F. Munteanu, D. Astanei, A. Ciobanu, M. Adochiței, M. Larion	<i>A Correlation Between Photovoltaic System Production and Local Solar Resources</i> 47
P. Bartolomey, E. Kotova, S. Semenenko, E. Lebedev	<i>Phasor Measurements Impact on the A Priori Data Filtration and Power Systems State Estimation</i> 51
P. Bartolomey, S. Semenenko	<i>Super-Accelerated Power Systems Power Flow and State Estimation Calculations Within the WAMS Environment</i> 55
R. Sebeșan, M. Durgău	<i>Electromagnetic Field Analysis Inside Applicator with Ceramic Cavity at Drying the Refractory Material</i> 59
F.-I. Hathazi, M.-N. Arion, V. D. Șoproni, C. O. Molnar, O. Popovici	<i>Study on the Extraction in Microwave Field of the Essential Oils from Chilli</i> 63
F. I. Hathazi, M. N. Arion, V. D. Șoproni, C. O. Molnar, M. D. Pantea	<i>The Extraction of Volatile Oils from Parsley Leaves in Microwave Field</i> 67

M.-N. Arion, F.-I. Hathazi, C. O. Molnar, V. D. Şoproni, M. Novac	<i>Study on Microwave Field Extraction of the Celery Essential Oils</i> 71
M.-N. Arion, F.-I. Hathazi, C. O. Molnar, V. D. Şoproni, M. Codrean	<i>About the Extraction in Microwave Field of the Essential Oils and Beta-Carotene from Carrots</i> 75
H. Alshareefi, H. Mamoori, C. Lupu	<i>Switching of Algorithms in the Multiple Models Strategy by Fuzzy Logic through an Allen-Bradley PLC</i> 79
O. Kotov, S. Gusev, V. Oboskalov	<i>Quantifying Impact of Directed Elements on Structural Reliability Indices of Electrical Power System</i> 83
A. Michaelides, T. Nicolaou	<i>Starting and Running the Induction Motor with a Variable Capacitor</i> 87
D. Micu, D. Stet, D. D. Micu	<i>Synthesis Method Validation for Electric Image Charges Determination</i> 91
L. Bandici, T. Leuca, S. Coman	<i>The Use of Microwave Field Energy in the Drying Process of Wooden Sticks</i> 95
C. Blaj, D. Toader, A. Maghet, O. Pop	<i>Electro-mechanic Transient on Starting DC Electrical Machine Using a Semi-controlled Rectifier</i> 99
A. Setel, D. Purcaru, C. E. Gordan, C. Antal, I. M. Gordan	<i>Aspects About the Conversion of Geothermal Energy Into Electricity in the North West of Romania</i> 103
T. Leuca, M. Maricar, I. F. Hăntilă, M. Vasilescu, M. Codrean, L. Bandici, A. Burca,	<i>Heating of Nonlinear Ferromagnetic Bars</i> 109
M. Spišiak, J. Kollár	<i>3D Object Symbolization</i> 113
M. Sičák, J. Kollár, M. Spišiak	<i>The Symbolization of Visual Natural Language Objects</i> 117
D J. Hemanth, D. E. Popescu, M. Mittal, S U. Maheswari	<i>Analysis of Wavelet, Ridgelet, Curvelet and Bandelet transforms for QR code based Image Steganography</i> 121
A. Contan, L. Miclea, C. Dehelean	<i>Applying Coding Systems in the Process of Testing Software Applications</i> 127
A. George, L. Peyton, V. Groza	<i>Graduate Attribute Information Analysis System (GAIA) – From Assessment Analytics to Continuous Program Improvement - Use of Student Assessment Data in Curriculum Development and Program Improvement</i> 132
A. Contan, C. Dehelean, L. Miclea	<i>Automated Testing Framework Development based on Social Interaction and Communication Principles</i> 136
I. Gordin, A. Graur, D. Balan	<i>Development of Eco-Friendly Cloud Computing Environments</i> 140
Ş. Vari-Kakas, O. Poszet, M. A. Pater	<i>Considerations Regarding the Dependability of Internet of Things</i> 145
O. C. Novac, T. Berczes, A. Kuki, A. Toth, W. Schreiner	<i>Modeling RF-Based Sensor Networks by Using Dual-Source Retrieval Queueing Systems</i> 149
O. C. Novac, M. Novac, C. Gordan, T. Berczes, G. Bujdosó	<i>Comparative Study of Google Android, Apple iOS and Microsoft Windows Phone Mobile Operating Systems</i> 154
V. Beiu, L. Dăuş, N. C. Rohatinovici, V. E. Balas	<i>Transport Reliability on Axonal Cytoskeleton</i> 160

S. Chatterjee, S. Sen, N. Dey, S. Dzitac, N. C. Rohatinovici, A. S. Ashour, V. E. Balas	<i>Hybrid Modified Cuckoo Search-Neural Network in Chronic Kidney Disease Classification</i> 164
M. Dulău, I. Madaras	<i>Monitoring and Control of the Timber's Drying Process</i> 168
C. R. Costea, S. Dale, D. Zmaranda, H. Silaghi	<i>MATLAB-SIMULINK Modeling for the Well Station of a Geothermal Power Plant</i> 172
M. Svoboda, D. Biba, S. Musuroi, C.-M. Ancuti, C. Sorandaru	<i>Modeling of Squirrel Cage Induction Machine with S – function in MATLAB Simulink</i> 176
F. P. Pop, A.-C. Pop, D.-C. Popa, R. Marțiș, C. Marțiș	<i>Comparative Analysis of Rare Earth-less Electrical Machines for 48V Automotive Cooling Fan Applications</i> 180
L. Szabó	<i>Using Maximum Correlated Kurtosis Deconvolution Method in the Bearing Fault Detection of Wind Turbine Generators</i> 184
G. Tonț, R. Munteanu Jr., I. M. Gordan, V. Spoială, T. Barabas, F. I. Hathazi, D. G. Tonț	<i>An Explicit Hierarchical Dynamic Reliability Approach for Heterogeneous Systems</i> 188
N. Pătrășcoiu	<i>Identification of parameters for dynamic regime of DC motor through virtual instrumentation</i> 192
O. Bunta, V. Muresan, D. Sas, T. Colosi	<i>Mathematical Formalisms used in the Orthodontic Dynamics</i> 196
O. Bunta, V. Muresan, D. Sas, T. Colosi	<i>Time and Space Constants in the Orthodontic Dynamics</i> 200
D. Popescu, L. Gliga, C. Dimon, S. Olteanu	<i>A New Strategy for Adaptive-Robust Control System Design</i> 204
D. M. Sas, Z. Kovendi, L. Coroiu, E. I. Gergely, G. Husi	<i>Modeling and Simulation of a Carbon ¹³C Separation Process by low temperature Distillation</i> 208
I. Kayri, M. T. Gencoglu	<i>Prediction of Power Production from a Single Axis Photovoltaic System by Artificial Neural Networks</i> 212
M. Rațiu, A. Rus	<i>Modeling of the Trajectory-generating Equipments</i> 216
A.-M. Silaghi, C. Balan, E. Tolan, A. De Sabata	<i>The Influence of measurement setups in Radiated Emissions testing</i> 220
L. Grama, L. Tuns, C. Rusu	<i>On the Optimization of SVM Kernel Parameters for Improving Audio Classification Accuracy</i> 224
L. Țepelea, I. Gavriluț, A. Gacsádi	<i>Smartphone Application to Assist Visually Impaired People</i> 228
C. Balint, A. De Sabata, P. Bechet, S. Miclăuș	<i>Joint Spectrum Availability Measurement in the 4.5-10.5 MHz HF Band</i> 232
G. Suci, A. Pasat, R. Coanca, S. Secu	<i>The Adoption of Photovoltaic Solutions for increasing Energy Efficiency within SMEs</i> 236
E. Tuba, A. Alihodzic, M. Tuba	<i>Multilevel Image Thresholding Using Elephant Herding Optimization Algorithm</i> 240
R.-D. Albu, N. Draghiciu	<i>Designing a Flexible and Low Cost Ultrasonic Non- Contact Rangefinder</i> 244
N. D. Trip, A. Burca, L. Morgoș	<i>Considerations on the Use of Thermoelectric Generators at low Temperatures to recover Waste Geothermal Energy</i> 248

N. D. Trip, A. Şchiop, A. Burca	<i>Considerations on the use of a MPPT Circuit for a Thermoelectric Generator</i> 252
F. Constantinescu, A. G. Gheorghe, M. E. Marin, O. S. Taus	<i>Harmonic Balance Analysis of Home Appliances Power Networks</i> 256