

2022 IEEE 5th International Conference and Workshop Obuda on Electrical and Power Engineering (CANDO-EPE 2022)

**Budapest, Hungary
21 – 22 November 2022**



**IEEE Catalog Number: CFP22Q64-POD
ISBN: 979-8-3503-4620-6**

**Copyright © 2022 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:	CFP22Q64-POD
ISBN (Print-On-Demand):	979-8-3503-4620-6
ISBN (Online):	979-8-3503-4619-0
ISSN:	2831-4492

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

Boosting the R&I Activity on Smart Grid Technologies	15
Venizelos Efthymiou, Mattia Cabiati, Andrei Morch	
TP Model Transformation in Control Design	17
Péter Zoltán Baranyi	
Using Commonly Available IoT Devices to Support and Facilitate the Learning Process	19
Zoltán Balogh	
A Novel Parabolic Equation of the Conductor Curve in an Inclined Span Based on a Known x-coordinate...	21
Alen Hatibovic, Péter Kádár, György Morva	
Monitoring of Photovoltaic Cell Parameters.	27
Marek Pavlik, Samuel Bucko, Jan Zbojovsky, Lubomir Bena	
Wind Turbine Power Control	31
Zsolt Conka, Vladimír Kohan, Róbert Stefko, Michal Kolcun	
Numerical Study of Wavy Collecting Electrodes with Different Shapes of Corona Electrodes	37
Moath M. Bani Fayyad, Angel G. Asipuela González, Tamás Iváncsy	
Paradigm Change of the Demand Side Management.	43
Péter Kádár	
Aspects of Romanian and Hungarian Energy Production Systems	49
Róbert Istók, Petru Gabriel Puiu	
Modeling and Simulation of Switched Reluctance Motor with Internal Fault Capability.	55
Mahmoud Hamouda, Fahad Al-Amyal, László Számel	
Battery Energy Storage System Impact Over Load Frequency Control in Microgrids	61
Khaldoon Alfaverh, Laszlo Szamel	
Analyzing the Effect of Thermal Stress on Dielectric Parameters of PVC Insulated Low Voltage Cable Sample	67
Semih Bal, Zoltan Adam Tamus	
Charging Stations with Constant Power in Cooperation with a Photovoltaic Power Plant.	73
Dusan Medved, Michal Kolcun, Jozef Király, Olexandr Shavolkin, Iryna Shvedchikova	
Imprint of Current Economic Facts in the Time Series of Google Results	77
Zoltán Farkas, Antal Ürmös, Ákos Nemcsics	
Eye Movement Monitoring for Multimedia Content Ranking	81
Robert Pinter, Sanja Maravic Cisar, Livia Szedmina, Verica Bulovic, Attila Kovari	
A Brief Overview of GaAs-based Quantum Structures and Their Technologies and Applications.	87
Zoltán Farkas, Antal Ürmös	

Waveguide Model for the Purposes of Evaluating the Shielding Effectiveness of the Electromagnetic Field	93
Ján Zbojovský, Juraj Kurimský, Irida Kolcunová, Marek Pavlík, Roman Cimbala	
Overloading Wiring Cables to Produce Samples for Fire Investigators	97
Tadeusz Sikora, Miroslava Nejtková	
COMSOL 3D Simulation of Optimization of Waste Heat Recovery Using Thermoelectric Generator	101
Zoltan Varga, Ervin Racz	
Sun Simulator for Laboratory Testing	107
Zoltan Varga, Ervin Racz	
Influence of Harmonic and Interharmonic Distortion on Electrical Efficiency of Low Voltage Grids	113
Mircea Buzdugan	
COMSOL 3D Simulation of Heat Distribution in a Simplified Dye-Sensitized Solar Cell -.....	119
Zoltan Varga, Ervin Racz	
On The Number of Distinct Dot Products	125
Borbély József	
Architecture of Automated User Interface based Tests with Protocol-Oriented Programming paradigm	131
Jozsef Laszlo Basiszta, Attila Kovari, Jozsef Katona	
Use of Artificial Intelligence in Electronic Learning Environments	137
György Molnár, Zoltán Szuts	
Discovery and Synchronization of Thing Descriptions in a Distributed Architecture	141
Salim Sir, Fabian Kohlmorgen, Martin Biskup, Markus Kuller, Ingo Kunold, Hendrik Wöhrle	
Automating Distributed Production Testing	147
Noura Sleibi, Areej Aldaghamin, Carsten Wolff	
Network Mapping for TDMA Mesh Sensor Networks with Flooding Routing	153
Gergely Sebestyén, Jozsef Kopjak	
Classification of Human Indoor Activities with Resource Constrained Network Architectures on Audio Data	157
Joseph Anand, Marcel Koch, Fabian Schlenke, Fabian Kohlmorgen, Hendrik Wöhrle	
Energy Saving Potential of Adaptive Street Lighting	163
László Balázs, Márk Majoros, Róbert Csamangó, József Nádas, Erika Tunyogi, Tamás Sándor	
Review the Basics of Nuclear Security in Case of Nuclear Power Plants, through a Hypothetical Scenario	169
Máté Solymosi, Zsolt Jurás	
Jamming Attacks in 5G NR FR1	175
Péter János Varga, Tibor Wüthrl, Sándor Gyányi, Márk Tamás Baross, Attila Németh	
A Latency-Aware Power-efficient Reinforcement Learning Approach for Task Offloading	181

Ali Aghasi, Rituraj Rituraj

AI Based Plagiarism Checking	187
György Molnár, Cserko Jozsef	
Considering Dependencies in Risk Analysis	193
József Beinschróth	
Energy Management System for Energy Communities	199
Richard Haddad, György Morva, József Bencsik, Péter Kádár	
Calculating the Efficiency of an Electric Motor from the Speed of the Vehicle and the Slope of the Road	205
Attila Fodor, Tamas Sandor	
Certification of Software Tools Used in Safety-Critical Software Development	211
György Schuster	
Authors' Index	217