Faculty of Electrical Engineering,
University of Zilina, Slovak Republic

# PROGRAM

of the 10th International Conference

## ELEKTRO 2014

Hotel Diplomat, Rajecke Teplice, Slovak Republic, May 19 –20, 2014

IEEE Czechoslovakia Section

IAS/IES Joint Chapter Czechoslovakia Section IEEE

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STRAPACOVA, T.

# PROGRAM

## Monday 19 May 2014

**08:00 – 09:30 Registration**
**09:45 – 10:00 Opening Ceremony – the City Hall**
**10:00 – 12:15 Invited Lectures– the City Hall**

**Teletraffic models beyond Erlang**
*Michael D. Logothetis and Ioannis D. Moscholios,*
University of Patras and University of Peloponnese, Greece

**Novel Trends in Numerical Modelling of Multiphysics Problems in Electromagnetics**
*Ivo Dolezel et al.,* University of West Bohemia, Czech Republic

**Photonic crystals for optoelectronics**
*Dusan Pudis,* University of Zilina, Slovak Republic

**Power Electronics as Key Factor in Generation, Transmission, and Usage of Electric Energy**
*Helmut Weiss,* Montan universitaet Leoben, Austria

**12:30 – 13:30 Lunch**
**14:00 – 15:20 Sessions**
**15:20 – 15:40 Coffee Break**
**15:40 – 17:00 Sessions**
**17:00 – 18:00 Poster Section**
**18:00 – 19:00 IEEE/IAS/IES Meeting, Congress room**
**19:30 – Conference Gala Dinner**

## Tuesday 20 May 2014

**08:00 – 09:00 Registration**
**09:00 – 10:20 Sessions**
**10:20 – 10:40 Coffee Break**
**10:40 – 12:00 Sessions**
**12:00 – 13:00 Poster Section**
**13:00 – 13:15 Closing ceremony, Congress room**
**13:15 – 13:45 Lunch**

# MONDAY 19 MAY 2014

**SESSIONS AND POSTER SECTION**

## TA1 Information and Communication Technologies and Services

**14:00 – 15:20 Lobby Bar, ground floor**

*chairman: Logothetis M., co-chairman: Brida P.*

**Petr Chlumsky, Jiri Vodrazka**
Delay Analysis of Data Transmission System with Channel Coding

**Boris I. Shakhtarin, Alexander A. Makarov, Yana A. Kupriyanova**
Measurer of the Random Radiopulse with Free-Form Envelope and Unknown Time-and-Frequency and Power Parameters

**Tamas Berczes, Adam Horvath**
A Finite-Source Queuing Model for Spectrum Renting in Mobile Cellular Networks

**Juraj Machaj, Peter Brida, Jozef Benikovsky**
Using GSM Signals for Fingerprint-based Indoor Positioning System

## TA2 Mechatronics and Electronics

**14:00 – 15:20 VIP room, third floor**

*chairman: Yaskiv V., co-chairman: Drgona P.*

**Michal Frivaldsky, Pavol Spanik, Peter Drgona, Ondrej Hock**
Influence of Transformer Core Geometry on the Qualitative Indexes of front-end Converters

**Pavol Spanik, Michal Frivaldsky, Andrej Kanovsky**
Life-time of the Electrolytic Capacitors in Power Applications

**Vojtech Blahnik, Zdenek Peroutka, Jakub Talla, Ivan Matuljak**
Controlled Single-phase Current Source with LCL Filter

**Frantisek Duchon, Michal Tolgyessy, Lubos Chovanec, Peter Paszto, Andrej Babinec, Pavol Gardian**
RGB-D Mapfor Robot Navigation

## TA3 Power Electrical Systems

**14:00 – 15:20 Congress room**
*chairman: Cacciato M., co-chairman: Spanik P.*

**Volodymyr Yaskiv, Anna Yaskiv, Alexander Abramovitz**
Performance Evaluation of MagAmp Regulated Isolated AC-DC Converter with High PF

**Juraj Koscelnik, Michal Prazenica, Michal Frivaldsky, Stefan Ondirko**
Design and Simulation of Multi-element Resonant LCTLC Converter with HF Transformer

**Marek Valco, Peter Sindler, Jozef Sedo, Jozef Kuchta**
Inverter Output Voltage under Different Type of Loads

**Juraj Koscelnik, Michal Frivaldsky, Michal Prazenica, Roman Mazgut**
A review of Multi-elements Resonant Converters Topologies

## TA5 Trends in Theoretical and Applied Electrical Engineering

**14:00 – 15:20 Winter Garden, ground floor**
*chairman: Annaroi M. De Paor, co-chairman: Capova K.*

**Davidson Clare M., De Paor M. Annaroi, Lowery M. Madeleine**
Using the Root Locus Method to Analyze Pathological Oscillations in Neurological Diseases

**J. Misek, M. Gala, B. Babusiak**
Capacitive Electrocardiography Measurement with Indirect Skin Contact

**Libor Hargas, DusanKoniar, Miroslav Hrianka, Peter Durdik, Peter Banovcin**
Integration of LabVIEW-Based Virtual Instruments to Modern Respirology Diagnostics

**Libor Hargas, Dusan Koniar, Miroslav Hrianka, Anna Simonova, Durdik Peter, Peter Banovcin**
Adjusting and Conditioning of High Speed Video Sequences for Diagnostic Purposes in Medicine

## TA1 Information and Communication Technologies and Services

**15:40 – 17:00 Lobby bar, ground floor**
*chairman: Mullerova J., co-chairman: Hudec R.*

**Josef Horalek, Jan Matyska, Vladimir Sobeslav, Petr Suba**
Energy Efficiency Measurements of Data Center Systems

**Stefan Badura, Milan Fratrik, Ondrej Skvarek, Martin Klimo**
Bimodal Vowel Recognition Using Fuzzy Logic Networks – Naive Approach

**Peter Sykora, Patrik Kamencay, Martina Zachariasova, Robert Hudec**
Hand Gesture Recognition Based on Depth Map

**Lubomir Scholtz, Dusan Korcek, Libor Ladanyi, Jarmila Mullerova**
Tunable Thin Film Filters for the Next Generation PON Stage 2 (NG-PON2)

## TA2 Mechatronics and Electronics

**15:40 – 17:00 VIP room, third floor**
*chairman: Yaskiv V., co-chairman: Frivaldsky M.*

**Pavol Spanik, Michal Frivaldsky, Peter Drgona**
Optimization Procedure for Selection of Active Components of DC-DC Converter's Thermal Simulation Model

**Gaetano Pecoraro, Mario Cacciato, Giuseppe Scarcella, Giacomo Scelba**
Design of Sine Wave Filters for Motor Drives Based on Genetic Algorithms

**Bohumil Skala, Vladimir Kindl, Roman Pechanek, Jan Sobra**
Problems with the Drive of the Coal-Conveyor

**Bohumil Skala, Vaclav Kus, Roman Pechanek**
Problems Concerning the Overloading of the Wastewater Pump Drive

**E. Zaitseva, M. Kvassay, V. Levashenko, J. Kostolny**
Reliability Analysis of Logic Network by Logical Differential Calculus

## TA3 Power Electrical Systems

**15:40 – 17:00 Congress room**
*chairman: Novak M., co-chairman: Brandt M.*

**Jozef Jurcik, Miroslav Gutten, Daniel Korenciak, Pawel Zukowski, Tomasz N. Koltunowicz, Konrad Kierczynski, Jan Subocz, Marek Szrot**
Analysis of AC Conductivity in Wet Oil Impregnated Insulating Paper

**Milan Sebok, Jozef Jurcik, Miroslav Gutten, Pawel Zukowski, Tomasz N. Koltunowicz, Konrad Kierczynski, Jan Subocz, Marek Szrot**
Moisture Level Content Analysis in Oil Impregnated Pressboard used in Power Transformers

**Miroslav Novak, Miloslav Kosek**
Unbalanced Magnetic Pull Induced by the Uneven Rotor Magnetization of Permanent Magnet Synchronous Motor

**Richard Janura, Jozef Jurcik, Miroslav Gutten, Daniel Korenciak**
Analysis of Distribution Transformer Insulation Using Domain Method

## TA5 Trends in Theoretical and Applied Electrical Engineering

**15:40 – 17:00 Winter Garden, ground floor**
*chairman: Dolezel I., co-chairman: Smetana M.*

**Jozefa Cervenova, Lukas Hajro**
One Possibility of Signal Processing

**Hynek Bachraty, Katarina Bachrata**
On Modeling Blood Flow in Microfluidic Devices

**Mariana Usakova, Elemir Usak, Vladimir Jancarik**
Magnetic Properties of Ni Ferrites Substituted by Divalent Zn, Cu and Co lons

**Maciej Oziemblowski, Tomasz Drozdz, Igor P.Kurytnik, Lukasz Bobak**
Effect of Pulsed Electric Field Strength and Number of Pulses on Fatty Acid Profile of Liquid Whole Egg

**Milan Stork**
Sinusoidal and Square Wave Voltage Controlled Oscillators

## Poster Section

### 17:00 – 18:00 Reception, ground floor

**Martin Matula, Jozef Dubovan, Miroslav Markovic**
Sensors Utilization for Weighing Applications of Vehicles in Motion

**Oleg V. Chernoyarov, Sai Si Thu Min, Alexandra V. Salnikova, M. Kuba**
Detection and Estimation of Abrupt Changes in Gaussian Random Processes with Unknown Parameters

**Martin Vestenicky, Martin Vaculik, Katarina Kotianova, Peter Vestenicky, Tomas Mravec**
Simplified Algorithm for Antenna Array Radiation Pattern Calculation in MATLAB Environment

**Libor Ladanyi, Lubomir Scholtz, Jarmila Mullerova**
Numerical Investigation of Soliton Propagation and Interaction in Optical Fibers Using Finite Difference Schema

**Miroslav Markovic, Michaela Solanska, Milan Dado**
Reservation of Network Resources Depending on the Type of Transmitted Services

**Vladimir Sedlak, Daniela Durackova, Tomas Kovacik**
Investigation of an Impact of Room Acoustics on Performance of Ideal Binary Mask

**Jozef Papan, Pavel Segec, Peter Paluch**
Multicast in IP Fast Reroute

**Igor Belai, Mikulas Huba**
Adaptive DO-FPI Controller for the First-order Plant

**Lorand Szabo, Mircea Ruba, Daniel Fodorean, Pavol Rafajdus, Peter Dubravka**
Direct Instantaneous Torque Controlled Modular Switched Reluctance Motor Designed for Automotive Applications

**Pavel Brandstetter, Ondrej Skuta, Tomas Verner**
Implementation of Vector Control with Rotor Time Constant Adaptation for Induction Motor Drive

**Ondrej Hock, Peter Drgona, Marek Paskala**
Simulation Model of Adjustable Arm using Denavit-Hartenberg Parameters

**Peter Cubon, Jozef Sedo, Roman Radvan, JanStancek, Pavol Spanik**
Calculation of Demand of Electric Power of Small Electric Vehicle using Matlab GUI

**Roman Mazgut, Pavol Spanik, Juraj Koscelnik, Peter Sindler**
The Measurement of Balance by the Accelerometer and Gyroscope

**Tomas Fedor, Jan Vittek, Peter Sindler**
Influence of Variable Moment of Inertia in Robot Servo Motor Control

**Lubomir Ostrica, Jozef Jurcik**
Detection of Faults Gasoline Injection System for new OBD Systems

**David Lindr, Pavel Rydlo, Petr Jirasko**
Simplified Inverse Control Method for Two-Mass Servomechanism Vibration Suppression

**Miroslav Dulik, Libor Ladanyi**
Surface Detection and Recognition using Infrared Light

**Jan Sobra, Vladimir Kindl, Bohumil Skala**
Determination of the Force Caused by Broken Rotor Bar and Static Eccentricity in an Induction Machine

**Petr Bernat, Petr Kacor**
Utilisation of Stray Electromagnetic Field for No-contact Operational Diagnostic of Asynchronous Machine

**Roman Pechanek**
Evaluation of Different Approaches of Mathematical Modelling of Thermal Phenomena Applied to Induction Motors

**Vladimir Kindl, Tomas Kavalir, Roman Pechanek, Bohumil Skala, Jan Sobra**
Key Construction Aspects of Resonant Wireless Low Power Transfer System

**Milan Diko, Pavol Rafajdus, Pavol Makys, Peter Dubravka, Lorand Szabo, Mircea Ruba**
A Novel Design Conception of Switched Reluctance Motor for Electrical Vehicles

**Zelmíra Ferkova**
Two-Phase Induction Motor- a Comparison of the Modeling in ANSYS Maxwell 2D and 3D

**Martin Brandt, Adrian Peniak**
The Failure of Power Transformer 110/23 kV Identification

**Vladimir Chudacik, Ladislav Janousek, Tatiana Strapacova, Milan Smetana**
Impact of Selected Defect Parameters on 3D Eddy Current Testing Response Signals

**Jindrich Jansa, Karel Slobodnik, Pavel Karban, Ivo Dolezel**
Cross-Correlation as a New Evaluation Tool in Pulsed Eddy Current Defectoscopy

**Jan Kacerovsky, Frantisek Mach, Nikolayev Denys, Pavel Karban, Ivo Dolezel**
Estimation of Charges and Critical Velocity of Plastic Particles in Triboelectric Separator

**Marek Lis, Marcjan Nowak, Marek Patro, Andrzej Rusek**
A General Form of the Mathematical Model for the Analysis of the Transient States of Complex Electro-Mechanical System with Distributed Parameters

**Marek Lis, Marcjan Nowak, Marek Patro, Andrzej Rusek**
A Mathematical Model of Single-Mass Electromechanical System Taking into Account the Temperature Effect on System Parameters on the Example of Mill Stand

**Adriana Savin, Dagmar Faktorová, Mária Pápežová, Rozina Steigmann**
Electromagnetic nondestructive evaluation using metamaterials sensor

## IEEE/IAS/IES Meeting

**18:00 - 19:00 Congress room**

# TUESDAY 20 MAY 2014

### SESSIONS AND POSTER SECTION

## TA 3 Power Electrical Systems

**09:00 – 10:20 Congress room**

*chairman: Vojenciak M., co-chairman: Hoger M.*

**Dominik Szabó, Michal Regula, Roman Bodnar, Juraj Altus**
Control of a SVC for Power Factor Correction

**Michal Vojenciak, Bertrand Dutoit, Daniele Colangelo**
Indirect Cooling of Superconducting Fault Current Limiter

**Roman Bodnar, Alena Otcenasova, Michal Regula, Dominik Szabo**
Measurement of Power Quality in Low-voltage Network

**Daniel Hropko, Marek Hoger, Marek Roch, Juraj Altus**
Reactive Power Optimization of Generators by using Particle Swarm Algorithm

## TA 4 Control and Information Systems in Transport and Industry

**9:00 – 10:20 Lobby Bar, ground floor**

*chairman: Janota A., co-chairman: Spalek J., Hrbcek J.*

**Axel Ruf, Emil Matejka, Ivan Sekaj**
Train Control System Without Interlocking. A New Paradigm in Railway Control?

**Petr Simonik, Tomas Mrovec, Jiri Takac**
Principles and Techniques for Analysis of Automotive Communication Lines and Buses

**Peter Nagy, Karol Rastocny**
Analysis of the Operator's Error Influence on the Safety of the Controlled Process

**Michal Gregor, Juraj Spalek**
Curiosity-driven Exploration in Reinforcement Learning

## TA 5 Trends in Theoretical and Applied Electrical Engineering

**09:00 – 10:20 Winter garden, ground floor**
*chairman: Stork M., co-chairman: Cap I.*

**Lukas Koudela**
Numerical Calculation and Experimental Verification of Forces during Regulation of Permanent Magnet

**Milan Smetana, Klara Capova, Tatiana Strapacova**
Evaluation of Biomaterial Stress-Corrosion Cracks by Magnetic Sensors

**Ladislav Janousek, Rebican Mihal, Milan Smetana, Tatiana Strapacova, Anton Duca**
Advanced Procedure for Non-destructive Diagnosis of Real Cracks from Eddy Current Testing Signals

**Renata Tothova, Iveta Jancigova, Ivan Cimrak**
Energy Contributions of Different Elastic Moduli in Mesh-Based Modeling of Deformable Objects

## TA 6 Materials and Technologies for Electrical Engineering

**09:00 – 10:20 VIP room, third floor**
*chairman: Pudis D., co-chairman: Gomory F.*

**Peter Hockicko, Jozef Kudelcik, Francisco Munoz, Laura Munoz-Senovilla**
Electrical Properties of LiPO3 Glasses

**Milan Fratrik, Martin Klimo, Peter Jancovic**
Determining the Switching Properties of the Minimum Function from a Single VI Characteristic

**Fedor Gomory, Milos Mosat, Jan Souc**
Superconducting Fault Current Limiter Operating in Liquid Nitrogen

**Jozef Kudelcik, Lukas Varacka**
Pressure Effects on Breakdown in Transformer Oil ITO 100

## TA2 Mechatronics and Electronics

**10:40 – 12:00 VIP room, third floor**
*chairman: Cacciato M., co-chairman: Spanik P.*

**Bohdan Borowik, Igor P. Kurytnik**
Microcontrollers Diagnostic System for Performance Evaluation of Stirling Engine

**Marek Lazor, Marek Stulrajter**
Novel Method for Field Oriented Controlof BLDC Motor with Smooth Produced Torque

**Tatiana Mudrakova, Milan Zalman, Martin Jarcuska**
LMPM Position Control with 4D Bi-Harmonic Master Slave Generator

**Petr Simonik, Tomas Mrovec, Jiri Takac**
Actuators for Regulation Weight and Air Pressure for Modern Turbodiesel Engines

## TA 3 Power Electrical Systems

**10:40 – 12:00 Congress room**
*chairman: Brandstetter P., co-chairman: Pacha M.*

**Martin Vlasak**
Reduction of Exciting Current of Induction Machine During Connection to Electrical Grid

**Matej Pacha, Jiri Stepanek**
Modelling of Parallel Operation of AC Traction Motors Considering Adhesion and Tilting

**Peter Butko, Tomas Fedor, Jan Vittek**
Comparison of Energy Consumption for Position Controlled SMPM using Various Energy Near-optimal Control Techniques

**Tomas Laskody, Michal Prazenica, Slavomir Kascak**
Space Vector PWM for Two-Phase Two-Leg Matrix Converter

## TA 4 Control and Information Systems in Transport and Industry

**10:40 – 12:00 Lobby Bar, ground floor**
*chairman: Mikulski J., co-chairman: Franekova M., Holecko P.*

**Jan Durech, Maria Franekova, Peter Holecko, Emilia Bubenikova**
Security Analysis of Cryptographic Constructions Used within Communications in Modern Transportation Systems on the Base of Modeling

**Marian Hrubos, Ales Janota**
Fusion of Sensory Data Obtained by Different Equipment Integrated in the Mobile Measurement Platform

**Jan Durech, Marian Hrubos, Maria Franekova, Ales Janota**
Implementation of Data from the Mobile Measurement Platform to VANET Application

**Peter Vestenicky, Tomas Mravec, Martin Vestenicky**
Mathematical Modelling of Single-Bit Passive RFID Marker Localization Methods

## TA 5 Trends in Theoretical and Applied Electrical Engineering

**10:40 – 12:00 Winter garden, ground floor**
*chairman: Karban P., co-chairman: Janousek L.*

**Iveta Jancigova, Renata Tothova**
Scalability of Forces in Mesh-Based Models of Elastic Objects

**Stefan Borik, Ivo Cap, Branko Babubsiak**
Analysis of Nonsymmetrical Arterial Branching using Electromechnical Analogies

**Stefan Borik, Ivona Malikova, Johannes Miersch, Daniel Laqua, Sebastian Ley, Peter Husar**
Light Source Driver, Photodiode and Impedance Sensing in Plethysmographic Measurements

**Branko Babusiak, Michal Gala, Stefan Borik**
Hardware Design of ECG Data Logger

## Poster Section

### 12:00 – 13:00 Reception, ground floor

**Oleg V. Chernoyarov, Alexandra V. Salnikova, Boris I. Shakhtarin, Artem E. Rozanov**
Threshold Characteristics of the Appearance Time Estimate of the Random Radio Pulse with Free-form Envelope and Inaccuracy Unknown Duration

**Vasilios Zarikas, Theofilos Chrisikos, K. E. Anagnostou, Stavros Kotsopoulos, P. Avlakiotis, C. Liolios, T. Latsos, G. Peratzakis, A. Lygdis , D. Antoniou, Asimakis Lykoyrgiotis**
Telemetry Analysis and Wireless Data Communications for a Measuring Station

**Slavomir Matuska, Robert Hudec, Miroslav Benco, Patrik Kamencay, Martina Zachariasova**
A Novel System for Automatic Detection and Classification of Animal

**Andrej Tkac, Vladimir Wieser**
Channel Estimation Using Measurement of Channel Impulse Response

**Michal Srnec, Peter Paluch**
Towards the Autonomic Network Management and Context Base Routing

**Jana Sajgalikova, Milan Dado**
Numerical Modeling of Degradation Mechanisms in Single Mode Optical Fibre Using Finite Difference Method

**Malgorzata Cupriak, Slawomir Jasinski, Malgorzata Kaliczynska**
Integrated IT System for Safety of Large Objects

**Pavel Drabek, Martin Pittermann, Miroslav Los, Bedrich Bednar**
Traction Drive With Medium-Frequency Transformer - Control Strategy Based on NULL Vectors

**Jozef Hrbcek, Vojtech Simak**
Controller Design for Nonlinear Stochastic System with Time Delay and Constraints

**Anna Kondelova, Jozef Cuntala**
Time Models of Dynamic and Static Reconfiguration in FPGAs

**Martin Kysela**
Data Logger of Tram's Control Signals

**Igor Miklosik, Juraj Spalek**
Acquisition of Meteorological and Operational Data for the Tunnel Simulator

**Jerzy Mikulski**
Katowice as a City with an Intelligent Traffic Management System

**Lubomir Pekar, Maria Gustafikova, Zuzana Lobotkova**
Accident Analysis, Related to the Train Movement in a Track Section in ZSR Conditions

**Karol Rastocny, Lubomir Pekar**
Analysis of the Causes of Hazards Associated with the Train Movement in Track Section

**Vojtech Simak, Dusan Nemec, Jozef Hrbcek**
Linear Control of Naturally Unstable System Using PID Regulator

**Juraj Zdansky, Karol Rastocny**
Influence of Redundancy on Safety Integrity of SRCS with Safety PLC

**Miroslav Dulik, Stanislav Jurecka**
Measuring Capacitance of VariousTypes of Structures

**Robert Hudec, Miroslav Benco, Slavomir Matuska, Patrik Kamencay, Martina Zachariasova**
Utilization of Electro-Conductive Blended Ag/PA Textile Rayon Yarnsas Data and Power Wires in an Intelligent Textile Structures

**Daniel Kacik, Peter Tatar, Ivan Martincek**
Measurement of PDMS Refractive Index by Low-Coherence Interferometry

**M. Sarlinova, E. Halasova, P. Palcek, R. Seewald**
Fracture Properties of Bone Cements

**Lubos Suslik, Dusan Pudis, Peter Gaso, Daniel Jandura, Ivana Lettrichova, Sofia Berezina, Rainer Nolte, Pavol Hronec, Jaroslav Kovac, Peter Schaaf**
PDMS Membranes with Surface 2D PhC for Far-Field Pattern Modification of LED

**Frantisek Mach, Ivan Novy, Pavel Karban, Ivo Dolezel**
Shape Optimization of Electromagnetic Actuators

**Ivona Malikova, Ladislav Janousek**
Non-Thermal Effects of Low-Frequency Electromagnetic Field on Biological Cells

**Maria Papezova, Dagmar Faktorova**
Localization of Epileptic Graphoelements

**Roman Radil, Jan Barabas, Patrik Kamencay**
Innovative Possibility of Small Metal Biomarker Detection Implanted into a Human Bone

**Sarlinova M. Halasova E., Palcek P., Seewald R.**
Fracture Properties of the Bone Cements

**Andrea Stubendekova, Milan Smetana, Ladislav Janousek:**
Non-destructive Testing of Artificial Knee Joint by Eddy Current Method

**Jakub Manas, Petr Bilik**
The Analyser of the Impact of Renewable Electricity Resources on the Flicker in the Distribution System

**Martin Galad, Pavol Spanik**
Design of Photovoltaic Solar Cell Model for Stand-alone Renewable System

**Daniel R. Weisz, Felix A. Himmelstoss**
LED Converter with Limited Duty Cycle

**Matus Novak, Richard Kravec, Martin Kanalik, Zsolt Conka, Michal Kolcun**
UPFC Influence to Transient Stability of Power System

**Michal Bahernik, Marek Hoger, Peter Bracinik, Klemen Dezelak**
Model of Photovoltaic Power Plant with Constant Resistive Load

**Michal Regula, Roman Bodnar, Alena Otcenasova, Dominik Szabo**
Monitoring of Voltage Quality in a Future Grid

**Stanislav Misak, Lukas Prokop, Petr Bilik**
Power Quality AnalysisinOff-grid Power System

**Vaclav Kusy, Martin Pittermann, Jiri Fort**
Control Algorithms of Additional Converter for Reducing the Impact of Voltage Sags to Typical Electric Drive

**Tomas Laskody, Slavomir Kascak, Michal Prazenica**
Space Vector PWM for Two-Phase Four-Leg Matrix Converter

**Vladimir Vavrus, Branislav Dobrucky**
Three Phase AC Cable Over-Voltages Analysis for Ultra-Deep Wells Supplying

## 13:00 – 13:15 Closing ceremony, Congress room