CONFERENCE PROGRAMME

17th International Conference
“Computational Problems of Electrical Engineering” (CPEE 2016)
14-17th, September, 2016, Sandomierz, Poland

Venue: Hotel Mały Rzym, ul. Okrzei 9, 27-600 Sandomierz

08.09.2016
CPEE 2016 – Wednesday, September 14

- **11:00** Start of conference registration
- **13:00 – 14:00** Lunch break
- **15:00 – 16:00** Conference opening and Keynote session  
  (chairmen Kazimierz Mikołajuk, Yuriy Bobalo)
  - 15:00 – 15:15 Opening ceremony
  - 15:15 – 16:00 Stanisław Osowski, Data mining methods and their application in bioengineering
- **16:00 – 16:20** Coffee break
- **16:20 – 17:40** Poster session 1 – Computer Science  
  (chairman Ivo Dolezel)
  - Bartłomiej Stasiak and Marcin Serwach, GA-based Parametrization and Feature Selection for Automatic Music Genre Recognition
  - Bobalo Yuriy, Stakhiv Petro and Shakhsavska Natalya, The system of Remote Education Resource Center development
  - Jarosław Juńczyk, Use of Personal Computers with Multi-core Processors for Optimisation Using the Genetic Algorithm Method
  - Mykhaylo Zagirnyak and Pavlo Kostenko, External optimization of SQL-query under conditions of databases structural uncertainty
  - Sergii Babak, Mykhailo Myslovych and Roman Sysak, Module Structure of UAV-based Computerized Systems For Remote Environment Monitoring of Energy Facilities
  - Alicja Bobko, Tomasz Grzywacz, Solving nonograms using genetic algorithms
  - Dorota Typańska and Jan Szymenderski, Control model of energy flow in agricultural biogas plant using SCADA software
  - Agnieszka Choroszacho and Boguslaw Butrylo, Implementation of the Adaptive Mesh within the Finite Difference Frequency Domain Algorithm to Analysis of Electromagnetic Field in Building Constructions
  - Aleksandr Yenikeyev, Mykhailo Myslovych and Leonid Shcherbak, Multiprocessor System Control and Optimization of Parameters of Diamond Grinding
  - Robert Szmurło, Bartosz Chaber and Jacek Starzyński, Solving magnetic field problems in FEniCS
- **19:00** Welcome party

CPEE 2016 – Thursday, September 15

- **8:00 – 9:00** Breakfast
- **9:00 – 10:20** Oral session 1 – Algorithms and Data Processing  
  (chairman Stanisław Osowski)
  - Mykhaylo Zagirnyak, Zhanna Romashykhina and Andrii Kalinov, Diagnostic signs of induction motor broken rotor bars in electromotive force signal
  - Marek Wdowiak, Tomasz Markiewicz and Janina Słodkowska, Cell segmentation in Desmoglein-3 Stained Specimen Microscopic Images using GVF and watershed algorithm
Boguslaw Butrylo and Agnieszka Choroszuch, Implementation of some iterative matrix solvers in simulation of the wave propagation problem using the time-harmonic finite difference algorithm

Tomasz Leś, Tomasz Markiewicz, Wojciech Kozłowski and Urszula Brzoskowska, HER2/CEN17 biomarkers detection in CISH images

10:20 – 10:40 Coffee break
10:40 – 12:00 Poster session 2 – Circuits and Systems (chairman Petro Stakhiv)

Michał Filipiak, Comparison of the Efficiency of Two-coil and Three-coil Wireless Power Supply Systems

Volodymyr Voitiuk, Dmitro Trushakov and Serhiy Rendzinyak, Influence on the Pollution of the Electrodes Impact of the Conductive Controvert Cross-Sectional Fluid Flow on Its Outbound Current

Mykhaylo Zagirnyak, Dmitro Rodkin, Iurii Romashykhin, Nikita Rudenko and Vladimir Chenchev, Identification of nonlinearities of induction motor equivalent circuits with the use of the energy method

Vasyl Malayar, Orest Hamola and Volodymyr Maday, Calculation of capacitors for starting up a three-phase asynchronous motor fed by single-phase power supply

Yuriy Bobalo, Leonid Nedostup, Myroslav Kiselychnyk, Mykhailo Melen and Petro Stakhiv, Problems of Adequate Modelling of Radio Electronic Device Parameter Distributions

Kazimierz Mikolajuk and Andrzej Tobola, Multiobjective Optimization Approach to the Active Power Filter Control

Liliana Byczkowska-Lipinska, Orest Hamola, Oksana Hoholyuk and Yuriy Kozak, Adaptation of Discrete Macromodels for Calculations in MATLAB/Simulink Environment

Lukasz Putz and Milena Kurzawa, Two-Step Power Supply Application to Reduce THDi Ratio in LED Light Sources with Integrated Driver

Jan Sroka, Simplified Method for Verification of Common Mode Absorption Devices

Bartosz Chaber, Jacek Starzyński and Robert Szmurlo, Computer simulation as a way of usable volume estimation in TEM waveguides

Krzysztof Siwek and Stanislaw Osowski, Particle Swarm Optimization in Synthesis of Electric Circuits

13:00 – 14:00 Lunch break
14:30 – 19:00 Sightseeing break
19:00 Banquet

CPEE 2016 – Friday, September 16

8:00 – 9:00 Breakfast
9:00 – 10:20 Oral session 2 – Electromagnetic Fields (chairman Eugeniusz Kurgan)

Michał Borecki and Jacek Starzyński, Simulation of Electric Field on the Surface of a Long Flashover Arrester

Arkadiusz Miaskowski, Piotr Gas and Andrzej Krawczyk, SAR Calculations for Titanium Bar-Implant Subjected to Microwave Radiation
- **Patryk Zradziński**, *A Comparison of ICNIRP and IEEE Guidelines to Evaluate Low Frequency Magnetic Field Localised Exposure*
- **Zygmunt Piatek, Tomasz Szczegielniak and Dariusz Kusiak**, *The Current Density Distribution In The Three-Phase Bus-Bars System*

**10:20 – 10:40 Coffee break**

**10:40 – 12:00 Poster session 3 – Engineering Applications 1 (chairman Oksana Hoholyuk)**
- **Zaneta Swiderska-Chadaj, Tomasz Markiewicz, Szczepan Cierniak and Robert Koktysz**, Automatic quantification of vessels in hemorrhoids Whole Slide Images
- **Piotr Gas and Eugeniusz Kurgan**, Comparative Analysis Between the 2D and 3D Models of Interstitial Microwave Hyperthermia
- **Andrzej Tolarczyk and Krzysztof Siwek**, Sequential pattern recognition for medical records analysis
- **Eugeniusz Kurgan and Piotr Gas**, Analysis of electromagnetic heating in magnetic fluid deep hyperthermia
- **Zuzanna Krawczyk and Jacek Starzyński**, Mesh morphing and bones reconstruction in biomedical applications
- **Mykola Dyvak, Iryna Hural and Piotr Lipinski**, Modeling the Processes of Dynamics at Biogas Plants on the Acetogenesis Stage
- **Andrii Hryvachevskyi, Ivan Prudyus, Leonid Lazko and Sergiy Fabirovskyy**, Improvement of Segmentation Quality of Multispectral Images by Increasing Resolution
- **Michal Kruk, Albina Jegorowa, Jarosław Kurek, Stanisław Osowski and Jarosław Górski**, Automatic recognition of drill condition on the basis of images of drilled holes
- **Artur Krupa and Bartosz Sawicki**, Preliminary study of random variable algebra for biological tissue description
- **Konrad Sobolewski, Andrzej Lasica and Przemysław Sul**, Lightning safety of tourists infrastructures

**13:00 – 14:00 Lunch break**

**14:00 – 15:20 Oral session 3 – Circuit and Systems Theory (chairman Zygmunt Piątek)**
- **Przemysław Sul, Jacek Starzyński, Diana Stepnowska, Adam Siok and Krzysztof Pachowicz**, Impact of the Selected FCG Design Parameters on the Current Gain
- **Sebastian Różowicz, Maciej Włodarczyk and Andrzej Zawadzki**, Wave parameters of symmetrical two-port networks containing elements of fractional order
- **Yuriy Shapovalov, Bohdan Mandziy and Dariya Bachyk**, The investigation of the Energy Characteristics of Linear Periodically-Time-Variable Circuits by the Frequency Symbolic Method Symbolic Method
- **Arkadiusz Miaskowski, Bartosz Sawicki and Mahendran Subramanian**, Identification of diffusion coefficients in heat equation on the base of non-adiabatic measurements of ferrofluids

**15:20 – 15:40 Coffee break**
• 15:40 – 17:00 Poster session 4 – Engineering Applications 2
  (chairman Liliana Byczkowska-Lipińska)
  o Przemysław Sul, Zdobysław Flisowski and Łukasz Kolimas, Simulation studies of
    electric field distribution in the evaluation of the influence of neighboring
    conductive infrastructure on field conditions over air terminals
  o Vaclav Kotlan, David Panek, Roman Hamar and Ivo Dolezel, Combination of
    Induction and Laser Cladding and its 3D Computer Model
  o Dariusz Kurz, Heat Flow in Installations with Photovoltaic Tiles
  o Milena Kurzawa, Wiesław Łyskawinski and Rafał Wojciechowski, A System of
    Wireless Transmission of Electric Energy with the Selection of Resonant
    Capacitances
  o Łukasz Kolimas and Przemysław Sul, Examination of the Flat Contact
  o Mykola Dyvak, Iryna Oliynyk and Petro Stakhiv, Method of reduction for interval
    system of linear algebraic equations and its application to modeling of the electric
    power generated by a small hydroelectric power station
  o Konrad Sobolewski and Kamil Dydek, Composite panels as electromagnetic field
    shields
  o Yurii Maslyiak, Andriy Pukas, Nataliya Porplytsya and Nataliya Kasatkina, Computer
    Model for Controlling the Drywall Drying Process
  o Pavel Karban, Vaclav Kotlan and Ivo Dolezel, Optimization of Process of Induction
    Clamping
  o Volodymyr Brygilevych, Denis Afanasyev, Vasyl Rabyk and Ivan Katerynchuk,
    Measurement of complex signals by quadrature sampling with filtering

• 17:00 – 17:30 Committee Meeting
• 17:30 – 18:00 Closing Ceremony
• 18:00 Dinner

CP EE 2016 – Saturday, September 17

• 8:00 – 9:00 Breakfast