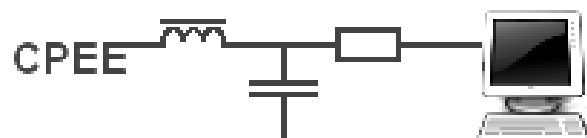




# CONFERENCE PROGRAMME



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

## CPEE 2016 – Wednesday, September 14

- **12:00 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 Shakhovska Natalya* , The system of Remote Education Resource Center development
  - *Jarosław Jajczyk*, 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 Choroszucho and Bogusław Butryło*, Implementation of the Adaptive Mesh within the Finite Difference Frequency Domain Algorithm to Analysis of Electromagnetic Field in Building Constructions
  - *Aleksandr Yenikayev, Mykhailo Myslovych and Leonid Shcherbak*, Multiprocessor System Control and Optimization of Parameters of Diamond Grinding
  - *Maciej Ciuba and Michał Wojciechowski*, Comparison of simulation of electric field distribution in heat-shrinkable MV cable termination with assembly faults
- **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 Choroszucho*, 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 Chenchevoi*, Identification of nonlinearities of induction motor equivalent circuits with the use of the energy method
  - *Vasyl Malyar, 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 Mikołajuk and Andrzej Toboła*, 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 Szmurło*, 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 trip**
- **20:30 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 Piątek, Tomasz Szczepielniak 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*, Generation of skeletal structures for the pelvis area with the use of 3-dimensional binary thinning algorithm
  - *Mykola Dyvak, Iryna Hural and Piotr Lipinski*, Modeling the Processes of Dynamics at Biogas Plants on the Acetogenesis Stage
  - *Andrii Hryvachevskyy, Ivan Prudyus, Leonid Lazko and Sergiy Fabirovskyy*, Improvement of Segmentation Quality of Multispectral Images by Increasing Resolution
  - *Robert Szmurło, Bartosz Chaber and Jacek Starzyński*, Solving magnetic field problems in FEniCS
  - *Michał 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 Łasica and Przemysław Sul*, Lightning safety of tourists infrastructures
  - *Andrzej Łasica, Robert Szmurło and Jacek Starzyński*, Accuracy of numerical model of coaxial impulse voltage divider validated with measurements
- **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**)
  - *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
  - *Vaclav Kotlan, David Panek, Roman Hamar and Ivo Dolezel*, Combination of Induction and Laser Cladding and its 3D Computer Model
  - *Dariusz Kurz*, Heat Flow in Installations with Photovoltaic Tiles
  - *Milena Kurzawa, Wiesław Łyskawiński and Rafał Wojciechowski*, A System of Wireless Transmission of Electric Energy with the Selection of Resonant Capacitances
  - *Łukasz Kolimas and Przemysław Sul*, Examination of the Flat Contact
  - *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
  - *Konrad Sobolewski and Kamil Dydek*, Composite panels as electromagnetic field shields
  - *Yurii Maslyiak, Andriy Pukas, Nataliya Porplytsya and Nataliya Kasatkina*, Computer Model for Controlling the Drywall Drying Process
  - *Pavel Karban, Vaclav Kotlan and Ivo Dolezel*, Optimization of Process of Induction Clamping
  - *Volodymyr Brygilevych, Denis Afanassyev, Vasyl Rabyk and Ivan Katerynychuk*, Measurement of complex signals by quadrature sampling with filtering
- **17:00 – 17:30 Committee Meeting**
- **17:30 – 18:00 Closing Ceremony**
- **18:00 Dinner**

CPEE 2016 – Saturday, September 17

- **8:00 – 9:00 Breakfast**