


→ **when**

13th–15th June
2016

↓ **where**

Palanga
Lithuania



20th
International
Conference

ELECTRONICS

2016

Programme



faculty of electrical
and electronics
engineering

Monday, 13th June, 2016

Day 1

	Room A		Room B	
10 ¹⁵ -10 ³⁰	1A	Opening Ceremony and Welcome		
10 ³⁰ -11 ⁰⁰	2A	Invited Speaker Mindaugas Varanauskas		
11⁰⁰-11³⁰ COFFEE BREAK				
11 ³⁰ -12 ³⁰	3A	Invited Speakers a) Jose A. Carrasco b) Arturas Petkus		
12³⁰-13³⁰ CONFERENCE LUNCH				
13 ³⁰ -15 ⁰⁰	4A	Electronics	1B	Telecommunications Engineering
15⁰⁰-15³⁰ COFFEE BREAK				
15 ³⁰ -17 ⁰⁰	5A	Electrical Engineering	2B	Signal Technology
18⁰⁰-22⁰⁰ WELCOME PARTY				

Tuesday, 14th June, 2016

Day 2

Room A			Room B	
9 ⁰⁰ -10 ³⁰	6A	Electrical Engineering	3B	System Engineering, Computer Technology
10 ³⁰ -11 ⁰⁰ COFFEE BREAK				
11 ⁰⁰ -12 ³⁰	7A	Telecommunications Engineering	4B	Electronics
12 ³⁰ -13 ³⁰ CONFERENCE LUNCH				
14 ⁰⁰ -22 ⁰⁰ BUS TRIP AND CONFERENCE DINNER				

Wednesday, 15th June, 2016

Day 3

Room A			Room B	
9 ⁰⁰ -10 ³⁰	8A	Electrical Engineering	5B	Signal Technology
10 ³⁰ -11 ⁰⁰ COFFEE BREAK				
11 ⁰⁰ -12 ³⁰	9A	High Frequency Technology, Microwaves	6B	Automation, Robotics
12 ³⁰ -13 ³⁰ CONFERENCE LUNCH				
13 ³⁰ -15 ⁰⁰	10A	Electronic Measurements	7B	Editorial Board Meeting of "EiE"
15 ⁰⁰ -15 ³⁰ ELECTRONICS 2016 CLOSING SESSION IN ROOM B				



Welcome

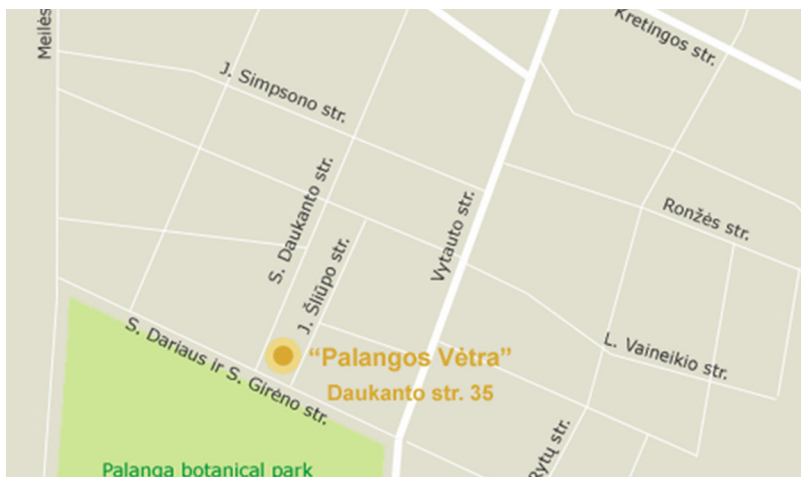
The 20th **International Conference ELECTRONICS 2016** is taking place in Palanga, a seaside resort town in western Lithuania, on the shore of the Baltic Sea. It is the busiest summer resort in Lithuania and has beaches of sand and beautiful sand dunes. ELECTRONICS 2016 is organized by Kaunas University of Technology (Department of Electronics Engineering of Faculty of Electrical and Electronics Engineering).

Technical program consists of three invited talks and technical papers oral presentations in parallel sessions: Automation, Robotics and Control; Electrical Engineering; Electronic Measurements; Electronics; High Frequency Technology, Microwaves; Microelectronics; Renewable Energy; Signal Technology; System Engineering, Computer Technologies; Telecommunications Engineering.

The accepted papers are published in the issues of the periodical scientific journal “Elektronika ir Elektrotechnika” and in the Conference Proceedings (ISSN 2424-5623). Scientific materials published in “Elektronika ir Elektrotechnika” (ISSN 1392-1215) are abstracted and indexed in: Thomson Reuters (ISI) Web of Knowledge Citation Databases (SCIE, JCR), INSPEC, VINITI, EBSCO.



Conference Venue



Hotel “Palangos Vėtra” is located in the centre of the resort.

Address: Hotel “Palangos Vėtra”

S. Daukanto St. 35, Palanga

Phone +370 460 53032

Mob. phone +370 611 36169

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<http://www.palangosvetra.lt/en/>



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University of Zagreb / Zagreb, Croatia
Prof., Dr. **Kazimierz Wilkosz**
Wroclaw University of Technology / Wroclaw,
Poland

Programme Events

📌 Invited Speaker



Dr. Mindaugas Varanauskas
TEO LT, AB, Lithuania

Is Telecommunication Development Stopped?
Monday, 13th June, 10:30–11:00, Room A

Dr. Mindaugas Varanauskas is leading the division that is responsible for fixed and mobile network of the largest IT and Telecommunications company in the Baltics TEO LT, AB. Mindaugas is in charge of the whole company network starting from strategy to developments, operations and maintenance. Mindaugas brings 18 years' experience in telecommunications industry with a strong focus on mobile telecommunications. He has a proven knowl-

edge of mobile technology solutions driving business development.

What are trends in telecommunication sector development today? Is development stopped or changed a direction? 4G evolution will bring new opportunities to customers and society. Is it only speed important to customers? Internet of things revolution is coming. Will we be part of this revolution? How fixed, mobile telecommunications and IT convergence change existing landscape?

↓ Invited Speaker



Dr. Jose A. Carrasco
EMXYS, Spain

Platform Electronics for Deep Space
Exploration with Small Spacecraft
Monday, 13th June, 11:30–12:00, Room A

Dr. Jose A Carrasco was born in Alicante, Spain, in March 1967. After obtaining an M.Sc. in Physics in 1990, he worked for a period of two years as power electronics researcher for the European Space Agency in the European Space Research and Technology Center, Noordwijk, the Netherlands. In September 1993, he joins the Laboratory of Industrial Electronics of the Universidad de Valencia, in Spain, where he obtains his Ph.D. in Electrical Engineering in 1996 for a work on high efficiency and reliable parallel power conversion techniques for space applications. In 1999, he joins the Universidad Miguel Hernandez where at present lectures on Electrical Engineering. In

2005, he co-founded the company EMXYS where he is CEO at present and has participated in several projects on power electronics, mixed (analog/digital) design, and instrumentation for space applications. EMXYS is an innovative company that designs, develops and produces embedded instruments, data acquisition and control systems for space applications having the European Space Agency among its customers.

Small spacecraft, such as CubeSats, are being considered for deep space exploratory missions with an eye on commercially viable endeavours such as asteroid mining. However, the step from warm and safe Low Earth Orbit to deep space has

a big impact on spacecraft system design and is a big challenge from the point of view of the platform and the payloads. Extreme temperature, reduced solar irradiation, lack of magnetic field for attitude control and total dose effects pose several obstacles that may be overcome, in a very reduced volume and mass envelope, for a successful mission. This conference will introduce the audience to the difficulties in-

involved in selecting an electrical topology for a deep space mission spacecraft platform, such as implementing a system bus voltage, extracting maximum power from the solar arrays, power management, on-board computer control, power distribution, and protection, as well as properly dimensioning these elements. As a practical example, EMXYS involvement in AIM mission will be presented.

↓ Invited Speaker



Dr. Arturas Petkus **NATO Energy Security Centre of Excellence**

Enhancing Energy Efficiency within Military:
NATO ENSEC COE Approach
Monday, 13th June, 12:00–12:30, Room A

Dr. Arturas Petkus joined the Strategic Analysis and Research Division of the NATO Energy Security Centre of Excellence in 2015 as a Head of division. His main areas of responsibility are: performance of energy security related analysis on strategic level; development of methodology and theoretical approach for assessment of energy security risks and threats, contribution to development of NATO Strategic Foresight Analysis; research in field of Energy Security (contribution to NATO CMX scenario, etc.). The industry offers a broad scope of innovative technological energy

efficiency solutions, triggered by cooperation among industry, academia and government. Majority of these solutions are dedicated to support civilian needs and can be applicable for military use as well. NATO ENSEC COE seeks to be the recognized hub of knowledge and expertise in Energy Security within military by support and contribution to development of technological availabilities for military. Challenges and opportunities concerning implementation of commercial technologies in favour of specific military needs will be presented.

Information for Participants



Registration

Starts on Sunday
12th June, 2016.
16:00.

Conference Desk
Working Hours:

Sunday
12th June, 2016.
16:00–19:00.

Monday
13th June, 2016.
8:30–16:00.

Tuesday
14th June, 2016.
8:30–13:30.

Wednesday
15th June, 2016.
8:30–15:30.



Presentation Time

Invited paper:
30 minutes, including
discussion.

Contributed oral paper:
15 minutes, including
discussion.



Entrance

To the Conference
Events:

Each participant will
receive a name tag at the
Conference Desk.

The tag is the official
pass for entry to the
Conference events.

Presenters will be
registered by a session
chair before each session.



Equipment

1. PC (Microsoft Windows 8 and MS Office 2013).
2. Projector. You may bring your presentation on a USB stick and use our PC.



Messages

Please check the
Conference bulletin
board from time to time
for possible changes
to the program and for
other announcements.



Social Events

Sightseeing Tour:
Sunday, 12th June, 2016
19:00–20:00

Welcome Party:
Monday, 13th June, 2016
18:00–22:00.

Bus Trip and
Conference Dinner:
Tuesday, 14th June, 2016
14:00–22:00.



Live Broadcast

The presentations of
sessions in Room A
will be broadcasted
live via Youtube and
will be made available
at Conference website
(electronicsconf.ktu.edu).



Language

The official language of
the ELECTRONICS 2016
Conference is English.



Monday, 13th June, 2016

Room A

10:15–10:30 **SESSION 1A**
Chairs: Petras Barsauskas, Algimantas Valinevicius
OPENING CEREMONY AND WELCOME

10:30–11:00 **SESSION 2A**
Chairs: Algimantas Valinevicius, Darius Andriukaitis,
Dangirutis Navikas
Invited Speaker Mindaugas Varanauskas
Is Telecommunication Development Stopped?

11:00–11:30 COFFEE BREAK

11:30–12:30 **SESSION 3A**
Chairs: Algimantas Valinevicius, Darius Andriukaitis,
Dangirutis Navikas
3A.1. Invited speaker Jose A. Carrasco
Platform Electronics for Deep Space Exploration with
Small Spacecraft
3A.2. Invited speaker Arturas Petkus
Enhancing Energy Efficiency within Military:
NATO ENSEC COE Approach

12:30–13:30 CONFERENCE LUNCH

13:30–15:00 **SESSION 4A / Electronics**
Chair: Dangirutis Navikas
4A.1. Z-Copy Voltage Controlled Current Follower
Differential Input Transconductance Amplifier in
Controllable Biquadratic Band-Pass Filter
Roman Sotner, Jan Jerabek, Tomas Dostal, Kamil Vrba
(Czech Republic)
Presenter: Roman Sotner (Czech Republic)
4A.2. Photovoltaic OLED Driver for Low-Power Stand-Alone
Light-to-Light Systems
Rasmus Overgaard Ploug, Arnold Knott (Denmark)
Presenter: Rasmus Overgaard Ploug (Denmark)
4A.3. Wireless Platform for the Fatigue Measurement of
Workers Employed in Underground Mines
Michal Kowal, Slawomir Kubal, Piotr Piotrowski, Kamil Staniec,
Michal Nowicki (Poland)
Presenter: Slawomir Kubal (Poland)

4A.4. Differential Second-Order Voltage-Mode All-Pass Filter Using Current Conveyors

Jaroslav Koton, Norbert Herencsar, Jiun-Wei Horng
(Czech Republic, Taiwan)

Presenter: Norbert Herencsar (Czech Republic)

4A.5. Experimental Detection of Transformer Excitation Asymmetry through the Analysis of the Magnetizing Current Harmonic Content

13:30–15:00

Nebojsa Uros Pjevalica, Nenad Petrovic, Velibor Pjevalica, Nikola Teslic (Serbia)

Presenter: Nebojsa Uros Pjevalica (Serbia)

4A.6. Wirelessly Interfacing Objects and Subjects of Healthcare System – IoT Approach

Damian Dziak, Bartosz Jachimczyk, Wlodek J. Kulesza
(Poland, Sweden)

Presenter: Damian Maciej Dziak (Poland)

15:00–15:30

COFFEE BREAK

SESSION 5A / Electrical Engineering

Chair: Bogdan Miedzinski

5A.1. Analysis and Applicability of Heffron–Phillips Model

Jozef Ritonja (Slovenia)

Presenter: Jozef Ritonja (Slovenia)

5A.2. A New Method of the Load Compensation Use During Creation of Post Blackout Start-up Path in Power System

Robert Malkowski, Maciej Losinski, Stanislaw Czapp, Robert Kowalak (Poland)

Presenter: Stanislaw Czapp (Poland)

15:30–17:00

5A.3. Demand Side Management in Small Power Systems – the Estonian Case Study

Imre Drovtar, Argo Rosin, Jako Kilter (Estonia)

Presenter: Imre Drovtar (Estonia)

5A.4. Angle Tracking Observer for Filtering Rotor Position Estimates in Sensorless Electric Drives

Leszek Jarzebowicz, Maciej Cisek, Artur Opalinski (Poland)

Presenter: Leszek Jarzebowicz (Poland)

5A.5. Position Controller for PMSM Based on Finite Control Set Model Predictive Control

Viktor Slapak, Karol Kyslan, Frantisek Durovsky (Slovakia)

Presenter: Viktor Slapak (Slovakia)

15:30–17:00 **5A.6. A Comparison of Heuristic Methods for Optimum Power Flow Considering Valve Point Effect**
Ahmet Dogan, Tankut Yalcinoz, Mustafa Alci (Turkey)
Presenter: Ahmet Dogan (Turkey)

18:00–22:00 WELCOME PARTY

Room B

12:30–13:30 CONFERENCE LUNCH

SESSION 1B / Telecommunications Engineering

Chair: Stefan R. Panic

1B.1. Enabling Validation of IEEE 802.15.4 Performance through a New Dual-Radio OMNeT++ Model

Francisco Jose Estevez, Jose Manuel Garcia, Jose Maria Castillo-Secilla, Jesus Gonzalez, Peter Gloesekoetter (Germany, Spain)

Presenter: Jesus Gonzalez (Spain)

1B.2. Evaluation of LTE and Aeronautical Radionavigation Service Electromagnetic Compatibility in 694–790 MHz Frequency Band

Guntis Ancans, Evaldas Stankevicius, Vjaceslavs Bobrovs, Girts Ivanovs (Latvia, Lithuania)

Presenter: Guntis Ancans (Latvia)

13:30–15:00

1B.3. Interconnection Contracts between Service and Content Provider with Partial Cloud Migration

Branka D. Mikavica, Aleksandra M. Kostic-Ljubisavljevic (Serbia)

Presenter: Branka Mikavica (Serbia)

1B.4. TMicroscope: Behavior Perception Based on the Slightest RFID Tag Motion

Zhongqin Wang, Ning Ye, Reza Malekian, Ruchuan Wang, Peng Li (China, South Africa)

Presenter: Reza Malekian (South Africa)

1B.5. Research of 10 Gbps NRZ-OOK Signal Spectral and Energy Efficiency

Deniss Pavlovs, Arturs Grincisins, Vjaceslavs Bobrovs, Peteris Gavars, Girts Ivanovs (Latvia)

Presenter: Deniss Pavlovs (Latvia)

13:30–15:00 **1B.6. Design of Novel MSK Architectures Using R-F Bit**
Mehmet Sonmez, Ayhan Akbal (Turkey)
Presenter: Mehmet Sonmez (Turkey)

15:00–15:30 COFFEE BREAK

SESSION 2B / Signal Technology
Chair: Norbert Herencsar

2B.1. Reconfigurable Two-Current Source Supplied
Wojciech Walendziuk, Adam Idzkowski,
Jerzy Golebiowski (Poland)
Presenter: Adam Idzkowski (Poland)

2B.2. Speech Signal Coding Using Forward Adaptive Quantization and Simple Transform Coding
Milan Z. Tancic, Zoran H. Peric, Stefan Tomic,
Nikola Simic (Serbia)
Presenter: Stefan Slavko Tomic (Serbia)

2B.3. An Improved Time-Frequency Representation Based on Nonlinear Mode Decomposition and Adaptive Optimal Kernel
Zhang Xin, Shao Jie, An Wenwei, Yang Tiantian, Reza Malekian
(China, South Africa)
Presenter: Reza Malekian (South Africa)

15:30–17:00

2B.4. A Novel Design of Low-Voltage VDIBA and Filter Application
Okkes Gokalp Sokmen, Sezai Alper Tekin, Hamdi Ercan,
Mustafa Alci (Turkey)
Presenter: Okkes Gokalp Sokmen (Turkey)

2B.5. Quadrature Mirror Filter Bank Design for Mitral Valve Doppler Signal Using Artificial Bee Colony Algorithm
Turker Koza, Nurhan Karaboga (Turkey)
Presenter: Turker Koza (Turkey)

2B.6. Ultrasonic Imaging of Adhesive Bond Contamination
Dobilas Liaukonis (Lithuania)
Presenter: Dobilas Liaukonis (Lithuania)

2B.7. Development of High Power Electric Pulses Generator to Increase Efficiency of Electroporation
Justinas Barakauskas, Vytautas Markevicius, Dangirutis Navikas
(Lithuania)
Presenter: Justinas Barakauskas (Lithuania)

18:00–22:00 WELCOME PARTY



Tuesday, 14th June, 2016

Room A

SESSION 6A / Electrical Engineering

Chair: Stanislaw Czapp

6A.1. Applicability of a Hall Sensor in Directional Ground Fault Protections of MV Cable Networks with No-Effective Earthing

Marcin Habrych, Bogdan Miedzinski, Xin Wang (Poland, China)

Presenter: Marcin Habrych (Poland)

6A.2. Improving Power Quality with the Use of a New Method of Serial Active Power Filter Control

Roman Hrbac, Tomas Mlcak, Vaclav Kolar (Czech Republic)

Presenter: Vaclav Kolar (Czech Republic)

6A.3. New Operation Strategy for a Grid-Connected Three-Phase Three-Level NPC qZS Inverter Based on Power Losses

Carlos Roncero-Clemente, Enrique Romero-Cadaval, Oleksandr Husev, Joao Martins (Spain, Estonia, Portugal)

Presenter: Carlos Roncero Clemente (Spain)

9:00–10:30

6A.4. Empirical Model of a Human Body Resistance at a Hand-to-Hand DC Flow

Sergiusz Boron, Adam Heyduk, Jaroslaw Joostberens, Joachim Pielot (Poland)

Presenter: Sergiusz Boron (Poland)

6A.5. Peak to Peak Current Minimization by Differential Evolution Optimization

Jakub Talla, Vojtech Blahnik, Lubos Streit (Czech Republic)

Presenter: Jakub Talla (Czech Republic)

6A.6. Problem of an Estimation of the Wind Generators Economic Efficiency in Latvia

Genadijs Zaleskis, Ivars Rankis (Latvia)

Presenter: Genadijs Zaleskis (Latvia)

10:30–11:00

COFFEE BREAK

SESSION 7A / Telecommunications Engineering

Chair: Alberto Rodriguez

7A.1. Round-Trip Delay Estimation in OPC UA Server-Client Communication Channel

Zilvinas Nakutis, Vytautas Deksnys, Ignas Jarusevicius, Vilius Dambrauskas, Gediminas Cincikas, Alenas Kriauceliunas (Lithuania)

Presenter: Zilvinas Nakutis (Lithuania)

11:00–12:30

7A.2. Optimization of the Design of Multifrequency Annular Arrays for Very Wide Band Operation

Jorge Topete Garcia, Tomas Gomez Alvarez-Arenas (Spain)
Presenter: Tomas Gomez Alvarez-Arenas (Spain)

7A.3. A Hybrid Method for Signaling Transport in GMPLS Control Plane

Mirjana D. Stojanovic, Suzana D. Miladic, Goran Z. Markovic (Serbia, Bosnia and Herzegovina)
Presenter: Suzana Dragan Miladic (Bosnia and Herzegovina)

7A.4. Electromagnetic Compatibility Analysis of DVB-T and LTE Systems

11:00–12:30

Jurgis Aleksandravicius, Jevgenij Krivochiza, Rimvydas Aleksiejunas, Kestutis Svirskas, Mindaugas Zilinskas (Lithuania)
Presenter: Kestutis Svirskas (Lithuania)

7A.5. FOPA Pump Phase Modulation and Polarization Impact on Generation of Idler Components

Sergejs Olonkins, Vjaceslavs Bobrovs, Girts Ivanovs (Latvia)
Presenter: Sergejs Olonkins (Latvia)

7A.6. On the Transmission of Double Watermarked Image over Rician FSO Channel

Bojan P. Prlincevic, Stefan R. Panic , Petar C. Spalevic, Milan A. Mistic, Abdalmalik Amniesi (Serbia)
Presenter: Stefan R. Panic (Serbia)

12:30–13:30

CONFERENCE LUNCH

14:00–22:00

BUS TRIP AND CONFERENCE DINNER

Room B

SESSION 3B / System Engineering, Computer Technology
Chair: Alexander Sudnitson

3B.1. Fast Data Sort Based on Searching Networks with Ring Pipeline

9:00–10:30

Valery Sklyarov, Iouliia Skliarova, Alexander Sudnitson (Portugal, Estonia)
Presenter: Alexander Sudnitson (Estonia)

3B.2. Automatic Detection of Pulmonary Embolism in CTA Images Using Machine Learning

Haydar Ozkan, Gokalp Tulum, Onur Osman, Sinan Sahin (USA, Turkey)
Presenter: Haydar Ozkan (Turkey)

3B.3. Prevention of Outbound Unsolicited Electronic Mail

Martynas Bendorius, Ingrida Lagzdinyte-Budnike,
Kestutis Paulikas, Aurelijus Budnikas (Lithuania)

Presenter: Martynas Bendorius (Lithuania)

3B.4. Classification of Lung Nodules Using Textural Image Features

Onder Demir, Ali Yilmaz Camurcu (Turkey)

Presenter: Onder Demir (Turkey)

3B.5. Kalman Filter for Hybrid Tracking Technique in Augmented Reality

9:00–10:30

Edgaras Artemciukas, Leonidas Sakalauskas, Evaldas Zulkas
(Lithuania)

Presenter: Edgaras Artemciukas (Lithuania)

3B.6. Sentiment Classification Based on Domain Prediction

Muhammet Yasin Pak, Serkan Gunal (Turkey)

Presenter: Muhammet Yasin Pak (Turkey)

3B.7. Classification of Knot Defect Types Using Wavelets and KNN

Ibrahim Cetiner, Ahmet Ali Var, Halit Cetiner (Turkey)

Presenter: Ibrahim Cetiner (Turkey)

10:30–11:00

COFFEE BREAK

SESSION 4B / Electronics

Chair: Wlodek J. Kulesza

4B.1. Design of Novel CMOS DCCII with Reduced Parasitics and its All-Pass Filter Applications

Emre Arslan, Kirat Pal, Norbert Herencsar, Bilgin Metin
(Turkey, India, Czech Republic, Turkey)

Presenter: Norbert Herencsar (Czech Republic)

4B.2. Surface and Underground Water Level Monitoring Using Wireless Sensor Node with Energy Harvesting Support

11:00–12:30

Zivorad Mihajlovic, Vladimir Milosavljevic, Ana Joza,
Vladimir Rajs, Mirjana Damjanovic, Milos Zivanov (Serbia)

Presenter: Zivorad Mihajlovic (Serbia)

4B.3. Reconnection-Less Electronically Reconfigurable Filter with Adjustable Gain Using Voltage Differencing Current Conveyor

Jan Jerabek, Roman Sotner, Josef Polak, Kamil Vrba,
Tomas Dostal (Czech Republic)

Presenter: Jan Jerabek (Czech Republic)

4B.4. Nonlinear Parasitic Capacitance Modeling of High Voltage Power MOSFETs in Partial SOI Process

Lin Fan, Arnold Knott, Ivan Harald Holger Jorgensen (Denmark)

Presenter: Lin Fan (Denmark)

4B.5. Impact of Transformer Design on Flyback Converter Voltage Spikes

Edvardas Bielskis, Algirdas Baskys, Martynas Sapurov (Lithuania)

Presenter: Edvardas Bielskis (Lithuania)

11:00–12:30

4B.6. Magnetometer Error Models of Low-Cost Land Vehicle Navigation System

Janis Kluga, Ansis Kluga, Viesturs Vecvagars (Latvia)

Presenter: Janis Kluga (Latvia)

4B.7. Feasibility Research of Non-Invasive Methods for Interstitial Fluid Level Measurement.

Vytautas Pockevicius, Mindaugas Cepėnas, Donatas Miklusis, Vytautas Markevicius, Dangirutis Navikas,

Algimantas Valinevicius, Darius Andriukaitis. (Lithuania)

Presenter: Vytautas Pockevicius (Lithuania)

12:30–13:30

CONFERENCE LUNCH

14:00–22:00

BUS TRIP AND CONFERENCE DINNER



Wednesday, 15th June, 2016

Room A

SESSION 8A / Electrical Engineering

Chair: Sergiusz Boron

8A.1. Influence of Skewed Squirrel Cage Rotor with Intermediate Ring on Magnetic Field of Air Gap in Induction Machine

Zelmira Ferkova, Vladimir Kindl (Slovakia, Czech Republic)

Presenter: Zelmira Ferkova (Slovakia)

8A.2. Impact of PWM Control Frequency onto Efficiency of a 1 kW Permanent Magnet Synchronous Motor

Tomasz Rudnicki, Andrzej Sikora, Robert Czerwinski, Dariusz Polok (Poland)

Presenter: Tomasz Rudnicki (Poland)

8A.3. Influence of Magnet Material Selection on the Design of Slow-Speed Permanent Magnet Synchronous Generators for Wind Applications

Ants Kallaste, Toomas Vaimann, Anouar Belahcen (Estonia, Finland)

Presenter: Ants Kallaste (Estonia)

8A.4. Neuro-Fuzzy Approach on Core Resistance Estimation at Loss Minimization Control of Permanent Magnet Synchronous Motor

Huseyin Erdogan, Mehmet Ozdemir (Turkey)

Presenter: Huseyin Erdogan (Turkey)

8A.5. Motor Mode Analysis of Exterior-Rotor PM Machine with Gramme's Winding

Rene Nukki, Aleksander Kilk, Samo Saarts,

Kristjan Tiimus Sr (Estonia)

Presenter: Rene Nukki (Estonia)

8A.6. Low-Resolution and Low-Cost Position Sensor Implementation for Permanent Magnet Synchronous Motor Driver

Mehmet Cihat Ozgenel, Gungor Bal, Durmus Uygun (Turkey)

Presenter: Durmus Uygun (Turkey)

9:30–11:00

11:00–11:30 COFFEE BREAK

SESSION 9A / High Frequency Technology, Microwaves

Chair: Panayiotis Frangos

9A.1. Characterization of Rough Fractal Surfaces from Backscattered Radar Data

Apostolos Dimitrios Kotopoulos, Anna Malamou, George Pouraimis, Evangelos Kallitsis, Panayiotis Vassilios Frangos (Greece)
Presenter: Panayiotis Frangos (Greece)

9A.2. On the Borehole Electromagnetic Method for Exploration of Coal Mining Goaf

Benyu Su, Jingcun Yu, Chenxing Sheng (China)
Presenter: Benyu Su (China)

11:30–12:30

9A.3. Waveform Design with Dual Ramp-Sequence for High-Resolution Range-Velocity FMCW Radar

Eugin Hyun, Jong-Hun Lee (South Korea)
Presenter: Eugin Hyun (South Korea)

9A.4. Radiation of a Vertical Dipole Antenna over Flat and Lossy Ground: Accurate Electromagnetic Field Calculation Using the Spectral Domain Approach along with Redefined Integral Representations and Corresponding Novel Analytical Solution

Ariadni Chrysostomou, Sotiris Bourgiotis, Seil Sautbekov, Konstantina Ioannidi, Panayiotis Vassilios Frangos (Greece)
Presenter: Panayiotis Frangos (Greece)

9A.5. Vivaldi Antenna for UWB Sensor Networks

Jan Gamec, Jan Schneider, Maria Gamcova (Slovak Republic)
Presenter: Jan Schneider (Slovakia)

12:30–13:30 CONFERENCE LUNCH

SESSION 10A / Electronic Measurements

Chair: Zilvinas Nakutis

13:30–15:00

10A.1. Comparative Evaluation of the Two Current Source Supplied

Wojciech Walendziuk, Jerzy Golebiowski, Adam Idzkowski (Poland)
Presenter: Wojciech Walendziuk (Poland)

10A.2. Ultrasound-Based Density Estimation of Composites Using Water-Air Interface

Arturas Aleksandrovas, Alberto Rodriguez, Linas Svilainis, Miguel Angel de la Casa, Addisson Salazar (Lithuania, Spain)
Presenter: Alberto Rodriguez (Spain)

10A.3. Analysis of Measurement Errors in Rail Vehicles' Pantograph Inspection System

Slawomir Judek, Leszek Jarzebowicz (Poland)
Presenter: Slawomir Judek (Poland)

13:30–15:00

10A.4. Improved C5D Electronic Realization of Conductivity Detector for Capillary Electrophoresis

Martin Jaanus, Andres Udal, Vello Kukk, Kadri Umbleja, Jelena Gorbatoeva, Lauri Molder (Estonia)
Presenter: Martin Jaanus (Estonia)

10A.5. Wireless Network Node to Monitor Stress in Steel Structures

Bogdan Dziadak, Mateusz Siek (Poland)
Presenter: Bogdan Dziadak (Poland)

10A.6. Energy Consumption Estimation for Embedded Applications

Momcilo V. Kronic, Miroslav V. Popovic, Vlado M. Kronic, Nenad B. Cetic (Serbia, Bosnia and Herzegovina)
Presenter: Momcilo Vlado Kronic (Serbia)

15:00–15:30

ELECTRONICS 2016 CLOSING SESSION IN ROOM B

Room B

SESSION 5B / Signal Technology

Chair: Roman Sotner

9:30–11:00

5B.1. Log-Domain Universal Biquad Filter Design Using Lossy Integrators

Niyazi Duduk, Abdullah T. Tola (Turkey)
Presenter: Abdullah T. Tola (Turkey)

5B.2. Postural Symmetry Evaluation Using Wavelet Correlation Coefficients Calculated for the Follow-up Posturographic Trajectories

Tomasz Lukaszewicz, Zenon Kidon, Dariusz Kania, Krystyna Pethe-Kania (Poland)
Presenter: Tomasz Lukaszewicz (Poland)

5B.3. Numerical Approach to Processing of Biomechanical Experimental Results

Audrone Dumciene, Saule Sipaviciene (Lithuania)

Presenter: Audrone Dumciene (Lithuania)

5B.4. Robustness of the Prediction Filter in Differential Pulse Code Modulation System

Nikola B. Dankovic, Zoran H. Peric, Dragan S. Antic, Stanisa Lj. Peric, Sasa S. Nikolic (Serbia)

Presenter: Nikola B. Dankovic (Serbia)

9:30–11:00

5B.5. Analysis of Closing-to-Opening Phase Ratio in Top-to-Bottom Glottal Pulse Segmentation for Psychological Stress Detection

Miroslav Stanek, Milan Sigmund (Czech Republic)

Presenter: Miroslav Stanek (Czech Republic)

5B.6. Improvement of DWT-SVD with Curve Fitting and Robust Regression: An Application to Astronomy Images

Talha Karadeniz, Ersin Elbasi (Turkey, United Arab Emirates)

Presenter: Talha Karadeniz (Turkey)

11:00–11:30

COFFEE BREAK

SESSION 6B / Automation, Robotics

Chair: Jozef Ritonja

6B.1. Performance Comparison of Particle Swarm Optimization, Differential Evolution and Artificial Bee Colony Algorithms for Fuzzy Modelling of Nonlinear Systems

Mehmet Konar, Aytekin Bagis (Turkey)

Presenter: Mehmet Konar (Turkey)

11:30–12:30

6B.2. Fuzzy Logic Control of Soft-Switching DC-DC Converter

Martin Leso, Jaroslava Zilkova, Marek Pastor, Jaroslav Dudrik (Slovakia)

Presenter: Martin Leso (Slovakia)

6B.3. Integration of a Low Pressure Mercury Discharge Device Digital Model into Simulink

Paulius Vaskys, Robertas Lukocius, Alfonsas Vaskys (Lithuania)

Presenter: Paulius Vaskys (Lithuania)

6B.4. Speed and Direction Angle Control of Four Wheel Drive Skid-Steered Mobile Robot by Using Fractional Order PI Controller

Kamil Orman, Abdullah Basci, Adnan Derdiyok (Turkey)

Presenter: Kamil Orman (Turkey)

11:30–12:30

6B.5. Research on Agricultural Greenhouse Robot Indoor Positioning Method

Wang Xin, Li Weiwei, Wang Shumao, Xu Miao, Zhang Jingkai (China)

Presenter: Xin Wang (China)

12:30–13:30

CONFERENCE LUNCH

SESSION 7B

Chairs: Algimantas Valinevicius, Darius Andriukaitis, Closed Meeting

13:30–15:00

Editorial Board Meeting of the Research Journal of Elektronika ir Elektrotechnika

15:00–15:30

ELECTRONICS 2016 CLOSING SESSION

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