

Monday, 18th June, 2018

Day 1 

		Room A	Room B	
10 ⁰⁰ -10 ¹⁵	1A	Opening Ceremony and Welcome		
10 ¹⁵ -11 ⁰⁰	2A	Invited Speaker Alberto Rodriguez		
11 ⁰⁰ -11 ⁴⁵ COFFEE BREAK				
11 ⁴⁵ -12 ³⁰	3A	Invited Speaker Arminas Ragauskas		
12 ³⁰ -13 ³⁰ CONFERENCE LUNCH				
13 ³⁰ -15 ⁰⁰	4A	Electronics	1B	Renewable Energy
15 ⁰⁰ -15 ³⁰ COFFEE BREAK				
15 ³⁰ -17 ⁰⁰	5A	Electrical Engineering	2B	Telecommunications Engineering
18 ⁰⁰ -22 ⁰⁰ WELCOME PARTY				

Tuesday, 19th June, 2018

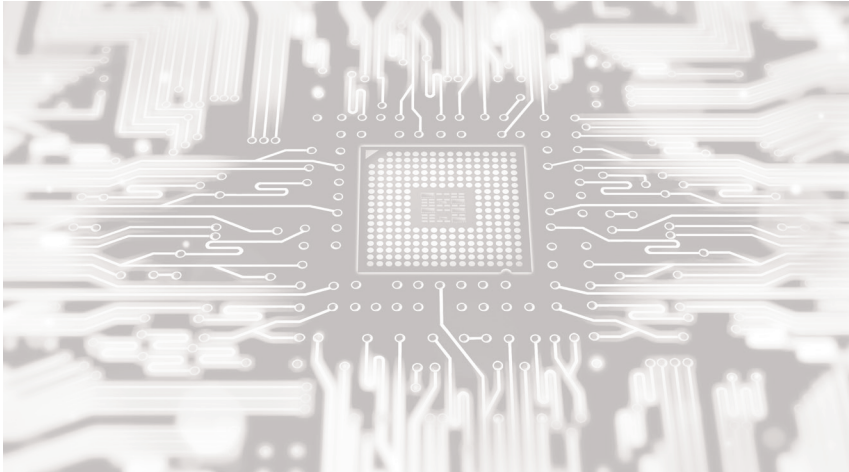
Day 2 

		Room A	Room B	
9 ⁰⁰ -10 ³⁰	6A	High Frequency Technology, Microwaves	3B	System Engineering, Computer Technology
10 ³⁰ -11 ⁰⁰ COFFEE BREAK				
11 ⁰⁰ -12 ³⁰	7A	Telecommunications Engineering	4B	Electronic Measurements
12 ³⁰ -13 ³⁰ CONFERENCE LUNCH				
13 ³⁰ -15 ⁰⁰	8A	Automation, Robotics	5B	Electronics
15 ⁰⁰ -15 ³⁰ COFFEE BREAK				
15 ³⁰ -17 ⁰⁰	9A	Fractional-Order Systems and their Utilization	6B	Renewable Energy
18 ⁰⁰ -22 ⁰⁰ BUS TRIP AND CONFERENCE DINNER				

Wednesday, 20th June, 2018

Day 3 

		Room A			Room B
9 ⁰⁰ -10 ³⁰	10A	Signal Technology	7B	Telecommunications Engineering	
10 ³⁰ -11 ⁰⁰ COFFEE BREAK					
11 ⁰⁰ -12 ³⁰	11A	System Engineering, Computer Technology	8B	Automation, Robotics	
12 ³⁰ -13 ³⁰ CONFERENCE LUNCH					
13 ³⁰ -15 ⁰⁰	12A	Electrical Engineering	9B	Editorial Board Meeting of "EiE"	
15 ⁰⁰ -15 ³⁰ ELECTRONICS 2018 CLOSING SESSION IN ROOM B					



Welcome

The **22nd International Conference ELECTRONICS 2018** 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 2018 is organized by Kaunas University of Technology (Department of Electronics Engineering of Faculty of Electrical and Electronics Engineering).

Technical program consists of two *invited talks*, *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 and Special session: Fractional-Order Systems and their Utilization.

The accepted papers are published in the issues of the periodical scientific journal “Elektronika ir Elektrotechnika” and in the IEEE Conference Proceedings (ISBN 978-1-5386-4749-3). Scientific materials published in “Elektronika ir Elektrotechnika” (ISSN 1392-1215) are abstracted and indexed in: Clarivate Analytics Web of Science (formerly Thomson Reuters (ISI) Web of Knowledge) Citation Databases (SCIE, JCR, IF – 0,859 (2016)), SCOPUS (CiteScore – 0.85 (2016)), INSPEC (IET), VINITI, EBSCO.



Conference Venue



Hotel “Grand Baltic Dunes” is located in the centre of the resort.

Address: Hotel “Grand Baltic Dunes”
 26 Birute avenue
 LT-00135, Palanga, Lithuania
 Mob. phone +370 615 22255
hotel@grandbalticdunes.com
<http://www.grandbalticdunes.com/en/>

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 Kaunas University of Technology
 Kaunas, Lithuania

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 Kaunas University of Technology
 Kaunas, Lithuania

Prof., Dr. Dangirutis Navikas
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Wroclaw, Poland

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Instituto de Telecomunicações
Aveiro, Portugal

Prof., Dr. Jurgis Porins

Riga Technical university | Riga, Latvia

Prof., Dr. Costas Psychalinos

University of Patras | Rio Patras, Greece

Assoc. Prof., Dr. Jozef Ritonja

University in Maribor | Maribor, Slovenia

Assoc. Prof., Dr. Alberto Rodriguez

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Elche, Spain

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University of OULU | Oulu, Finland

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Technology | Xuzhou, China

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Kaunas University of Technology
Kaunas, Lithuania

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Mugla Sitki Kocman University
Mugla, Turkey

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Ostrava, Czech Republic

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Wroclaw University of Technology
Wroclaw, Poland

Prof., Dr. Yongle Wu

Beijing University of Posts and
Telecommunications | Beijing, China

Programme Events

↓ Invited Speaker



Assoc. Prof. Dr. Alberto Rodríguez

University Miguel Hernandez of Elche, Spain

Challenges for Electronic Engineers in the Field of Autonomous Cars

Monday, 18th June, 10:15–11:00, Room A

Alberto Rodríguez is an Associate Professor in the Communications Engineering Department in the University Miguel Hernandez of Elche (Elche). His research focuses on statistical signal processing, time-frequency analysis techniques and signal detection and identification. The applications of his research are focused in ultrasound signal processing, autonomous cars, biomedical signal processing, brain-to-computer interfaces and LADAR image processing.

Autonomous vehicles are the future that is waiting for us next door. It is one of the most challenging technologies nowadays, and although it is considered to be one of

the century's revolutions, it is constantly demanding new solutions and investment due to its overwhelming complexity. There are many engineering fields involved in the design of the autonomous vehicles and the associated infrastructure needed to make this dream a reality, but electronics and communications are the most directly concerned, as the sensors, data, decisions and communications that has to be dealt with in real time is a terrific challenge. The talk will introduce the state of the art of the technologies used so far and some of the challenges that are still waiting for practical and affordable solutions.

↓ Invited Speaker



Prof. Dr. Arminas Ragauskas

Health Telematics Science Institute, Lithuania

How Electronic Technologies Can Protect the Brain Cells from Injury During Intensive Care or Surgery Procedures?

Monday, 18th June, 11:45–12:30, Room A

Prof. Arminas Ragauskas is an inventor (more than 150 registered inventions and patents in the US, EU, Japan and other countries), innovator, establisher of start-up companies in Lithuania and in the US, initiator and leader of many international R&D projects including multi-center clinical studies in Lithuania, EU countries and the US.

How brain cells are damaged by intracranial blood hypo perfusion and hyper per-

fusion? How to protect brain cells from secondary damages during intensive care of severe traumatic brain injury patients? How to protect brains of patients during cardiac surgery? Why development of novel non-invasive electronic technologies is an only way to start effective brain cell protection?

Information for Participants



Registration

Starts on Sunday
17th June, 2018.
16:00.

Conference Desk Working Hours:

Sunday
17th June, 2018
16:00–19:00

Monday
18th June, 2018
8:30–16:30

Tuesday
19th June, 2018
8:30–16:30

Wednesday
20th June, 2018
8:30–15:00



Social Events

Sightseeing Tour
Sunday, 17th June, 2018
19:00–20:00.

Welcome Party
Monday, 18th June, 2018
18:00–22:00.

**Bus Trip and
Conference Dinner**
Tuesday, 19th June, 2018
18:00–22:00.



Language

The official language of the
Conference ELECTRONICS
2018 is English.



Entrance

To the Conference
Events:

Each participant will
receive a name tag
and tickets at the
Conference Desk for
entry to the Conference
events.

Presenters will be
registered by a Session
Chair before each
session.



Presentation Time

Invited paper:
45 minutes, including
discussion.

Contributed oral paper:
15 minutes, including
discussion.



Equipment

1. PC (Microsoft
Windows 10 and MS
Office 2016).
2. Projector.
You may bring your
presentation on a USB
stick and use our PC.



Live Broadcast

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



Messages

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



Monday, 18th June, 2018

ROOM A

- 10:00 **SESSION 1A**
 – **Chairs:** Algimantas Valinevicius, Darius Andriukaitis
 10:15 **OPENING CEREMONY AND WELCOME**

- SESSION 2A**
Chairs: Algimantas Valinevicius, Darius Andriukaitis,
 Dangirutis Navikas
 10:15
 –
 11:00 **Invited Speaker** Alberto Rodriguez (Spain)
Challenges for Electronic Engineers in the Field of Autonomous Cars

11:00–11:45 COFFEE BREAK

- SESSION 3A**
Chairs: Algimantas Valinevicius, Darius Andriukaitis,
 Dangirutis Navikas
 11:45
 –
 12:30 **Invited speaker** Arminas Ragauskas (Lithuania)
**How Electronic Technologies Can Protect the Brain Cells from Injury
 During Intensive Care or Surgery Procedures?**

12:30–13:30 CONFERENCE LUNCH

- 13:30 **SESSION 4A | ELECTRONICS**
 – **Chair:** Dangirutis Navikas (Lithuania)
 15:00 **4A.1. Ultrasonic Air Coupled Transducer Output Impedance
 Measurement Technique**
 Linas Svilainis, Andrius Chaziachmetovas, Tomas E. Gomez Alvarez-Arenas
 (Lithuania, Spain)
Presenter: Linas Svilainis (Lithuania)
- 4A.2. A High-Voltage Low-Power Switched-Capacitor DC-DC Converter
 Based on GaN and SiC Devices for LED Drivers**
 Lin Fan, Arnold Knott, Ivan Harald Holger Jorgensen (Denmark)
Presenter: Arnold Knott (Denmark)
- 4A.3. Evaluation of the Accuracy of ADAS Module Readings Based
 on an Analysis of the Transient Supply Current and Neural Network
 Application**
 Damian Grzechca, Pawel Rybka, Krzysztof Paszek (Poland)
Presenter: Damian Grzechca (Poland)

13:30 **4A.4. Optimizing FDTD Memory Bandwidth by Using Block Float-Point Arithmetic**

–
15:00 Stefan Pijetlovic, Milos Subotic, Nebojsa Pjevalica (Serbia)
Presenter: Stefan Brano Pijetlovic (Serbia)

4A.5. Limiting the Influence of Regulated Electrical Drainage on Track Circuits

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

4A.6. Methods for Extension of Tunability Range in Synthetic Inductance Simulators

Roman Sotner, Jan Jerabek, Norbert Herencsar, Lukas Langhammer, Jiri Petrzela, Tomas Dostal (Czech Republic)
Presenter: Lukas Langhammer (Czech Republic)

15:00–15:30 COFFEE BREAK

15:30 **SESSION 5A | ELECTRICAL ENGINEERING**

–
Chair: Bogdan Miedzinski (Poland)

17:00 **5A.1. Impact of Symmetrical Phase Shifter on Power-System State Estimation**

Tomasz Okon, Kazimierz Wilkosz (Poland)
Presenter: Tomasz Kazimierz Okon (Poland)

5A.2. Optimal Power and Signal Cables Arrangement for Minimizing Electromagnetic Interference in Oil and Gas Industry

Muhammad Akmal Ayob, Febby Purnama Madrin, Hazrul Izwan Hussien, Mohammad Akmal Abu Taib, M. Faudzi M. Yasir, Mostafa Sayahkarajy, Eko Supriyanto (Malaysia)
Presenter: Eko Supriyanto (Malaysia)

5A.3. Design and Analysis of A New Zero Current Transition Bidirectional DC-DC Converter for Energy Storage Systems

Pramod Kumar Aylapogu, Veera Venkata Subrahmanya Kumar Bhajana, Pavel Drabek, Martin Jara (India, Czech Republic)
Presenter: Pavel Drabek (Czech Republic)

5A.4. OSSB and Hybrid Methods to Prevent Cable Faults for Harmonic Containing Networks

Bahadir Akbal (Turkey)
Presenter: Bahadir Akbal (Turkey)

5A.5. Analysis of Progressively Unbalanced Induction Motor Current Signals Based on Information Entropy

Ignas Andrijauskas, Rimantas Adaskevicius (Lithuania)
Presenter: Ignas Andrijauskas (Lithuania)

- 15:30 **5A.6. Efficiency Improvement for a DC-DC Quadratic Power Boost Converter by Applying a Switch Turn-off Lossless Snubber Structure Based on Zero Voltage Switching**
–
17:00 Davood Ghaderi, Mehmet Celebi, Mehmet Recep Minaz, Murat Toren (Iran)
Presenter: Davood Ghaderi (Iran)

18:00–22:00 WELCOME PARTY

ROOM B

12:30–13:30 CONFERENCE LUNCH

- 13:30 **SESSION 1B | RENEWABLE ENERGY**
–
15:00 **Chair: Pavel Drabek (Czech Republic)**
- 1B.1. Conventional and Soft-Computing Based MPPT Methods Comparisons in Direct and Indirect Modes for Single Stage PV Systems**
Ekrem Kandemir, Selim Borekci, Numan Sabit Cetin (Turkey)
Presenter: Ekrem Kandemir (Turkey)
- 1B.2. Analysis and Control of Fault Ride Through Capability Improvement Pmsg Based on Wecs Using Active Crowbar System During Different Fault Conditions**
Altan Gencer (Turkey)
Presenter: Altan Gencer (Turkey)
- 1B.3. A Fuzzy Logic Controller based Maximum Power Point Tracking Algorithm for Partially Shaded PV Array-Experimental Validation**
Boualam Benlahbib, Nouredine Bouarroudj, Saad Mekhilef, Tameur Abdelkrim, Abdelkader Lakhdari, Farid Bouchafaa (Algeria, Malaysia)
Presenter: Boualam Benlahbib (Algeria)
- 1B.4. Energy Flows Management of Multiple Electric Vehicles in Smart Grid**
Gergana Vacheva, Nikolay Hinov, Hristiyan Kanchev, Rad Stanev, Octavian Cornea (Bulgaria)
Presenter: Hristiyan Kanchev (Bulgaria)
- 1B.5. An Analytic Approach to Probabilistic Load Flow Incorporating Correlation Between Non-Gaussian Random Variables**
Yu Huang, Qingshan Xu, Xianqiang Jiang, Yang Yang, Guang Lin (China)
Presenter: Yu Huang (China)

- 13:30 **1B.6. Analysis, Design and Simulation of Buck Converter for**
– **Photovoltaic System**
15:00 Mohamed Aboubacar Yasko (Turkey)
Presenter: Mohamed Aboubacar Yasko (Turkey)

15:00–15:30 COFFEE BREAK

- 15:30 **SESSION 2B | TELECOMMUNICATIONS ENGINEERING**
– **Chair: Stefan Panic (Serbia)**
17:00

2B.1. Two-Way Half Duplex Decode and Forward Relaying Network with Hardware Impairment over Rician Fading Channel: System Performance Analysis

Tan N. Nguyen, Phuong T. Tran, Tran Hoang Quang Minh, Miroslav Voznak, Lukas Sevcik (Vietnam, Czech Republic)
Presenter: Lukas Sevcik (Czech Republic)

2B.2. Sharing Location Information in Multi-UAV Systems by Common Channel Multi-Token Circulation Method in FANETs

Eyup Emre Ulku, Buket Dogan, Onder Demir, Ilker Bekmezci (Turkey)
Presenter: Eyup Emre Ulku (Turkey)

2B.3. Quasi-Real Scenario of Reconfigurable Filtering Functions Antenna for UWB Communications

Hicham Medkour, Ameur Zegadi, Erika Vandelle, Imededdin Djadour, Vuong Tan Phu (Algeria, France)
Presenter: Hicham Medkour (Algeria)

2B.4. Performance Comparison of Single-Pump FOPA and LRA in a 16-Channel DWDM Transmission System

Sergejs Olonkins, Julija Putrina, Vjaceslavs Bobrovs (Latvia)
Presenter: Sergejs Olonkins (Latvia)

2B.5. Design of Switched Quantizers and Speech Coding Based on Quasi-Logarithmic Compandor

Nikola J. Vucic, Zoran H. Peric, Goran M. Petkovic (Serbia)
Presenter: Nikola J. Vucic (Serbia)

2B.6. Study on Mobility and Migration in a Fog Computing Environment

Pedro Juan Roig, Salvador Alcaraz, Katja Gilly, Carlos Juiz (Spain)
Presenter: Pedro Juan Roig (Spain)

18:00–22:00 WELCOME PARTY



Tuesday, 19th June, 2018

ROOM A

9:00

SESSION 6A | HIGH FREQUENCY TECHNOLOGY, MICROWAVES

–

Chair: Abdullah T. Tola (Turkey)

10:30

6A.1. The Study on Transient Electromagnetic Response of High Resistivity Goafs and Its Application

Li Maofei, Liu Shucai, Su Benyu, Ma Yongshen, Sun Qilong (China)

Presenter: Benyu Su (China)

6A.2. qZS Inverter as Synchronverter in Small-Scale Micro-Grid

Janis Zakis, Elena Makovenko, Hao Zeng, Oleksandr Husev,

Lauri Kutt (Latvia, Estonia, USA)

Presenter: Janis Zakis (Latvia)

6A.3. Shielding Protection Comparison for Security Cameras Lenses

Stanislav Kovar, Jan Valouch, Milan Adamek, Petr Zacek

(Czech Republic)

Presenter: Petr Zacek (Czech Republic)

6A.4. Planar Inductor for Biological Experimentation in Pulsed Magnetic Fields

Audrius Lucinskis, Audrius Grainys, Sebastjanas Kurcevskis, Sonata Tolvaisiene, Tomas Ustinavicius, Ricardas Masiulionis, Paulius Butkus (Lithuania)

Presenter: Audrius Grainys (Lithuania)

6A.5. Angular Dispersion Modeling for 5G Wireless Link with Directional Antennas

Jan M. Kelner, Cezary Ziolkowski, Leszek Nowosielski (Poland)

Presenter: Leszek Nowosielski (Poland)

6A.6. Optimum Electromagnetic Modelling of RF MEMS Switches

Mehadi Hasan Ziko, Ants Koel (Estonia)

Presenter: Mehadi Hasan Ziko (Estonia)

10:30–11:00 COFFEE BREAK

11:00

SESSION 7A | TELECOMMUNICATIONS ENGINEERING

–

Chair: Alberto Rodriguez (Spain)

12:30

7A.1. Background Disturbance Levels Conducted over Low Voltage Power Lines

Leszek Nowosielski, Bogdan Uljasz, Michal Nowosielski (Poland)

Presenter: Leszek Nowosielski (Poland)

11:00 **7A.2. Performance Testing and Methodology for Evaluation of Power
– Line Communication**

12:30 Petr Mlynek, Jiri Misurec, Petr Toman, Pavel Silhavy, Radek Fujdiak, Jan Slacik, Zeynep Hasirci, Konstantin Samouylov (Czech Republic, Russia)
Presenter: Petr Mlynek (Czech Republic)

7A.3. Exploiting Secure Performance of Full-Duplex Decode and Forward in Optimal Relay Selection Networks

Thu-Thuy Thi Dao, Ngoc-Long Nguyen, Hong-Nhu Nguyen, Si-Phu Le, Dinh-Thuan Do, Quyet Nguyen, Miroslav Voznak (Vietnam, Czech Republic)
Presenter: Dinh-Thuan Do (Vietnam)

7A.4. SSC Reception over Kappa-Mu Shadowed Fading Channels in the Presence of Multiple Rayleigh Interferers

Aco Stevanovic, Stefan Panic, Petar Spalevic, Bojan Princevic, Milan Savic (Serbia)
Presenter: Stefan Panic (Serbia)

7A.5. Statistical LOS/NLOS Channel Model for Simulations of Next Generation 3GPP Networks

Rimvydas Aleksiejunas, Albert Cesiul, Kestutis Svirkas (Lithuania)
Presenter: Rimvydas Aleksiejunas (Lithuania)

7A.6. Study on OSPF Algebraic Formal Modelling Using ACP

Pedro Juan Roig, Salvador Alcaraz, Katja Gilly, Carlos Juiz (Spain)
Presenter: Pedro Juan Roig (Spain)

12:30–13:30 CONFERENCE LUNCH

13:30 **SESSION 8A | AUTOMATION, ROBOTICS**

– **Chair: Damian Grzechca (Poland)**

15:00 **8A.1. A Novel Safe Merging Algorithm for Connected Vehicles Using Netlogo**

Mehmet Bozuyula, Abdullah T. Tola, Yetis Sazi Murat (Turkey)
Presenter: Abdullah T. Tola (Turkey)

8A.2. Modelling and Control by Neural Network of Electric Vehicle Traction System

Hristiyan Kanchev, Nikolay Hinov, Bogdan Gilev, Bruno Francois (Bulgaria, France)
Presenter: Gergana Vacheva (Bulgaria)

8A.3. Automatic Classification of Motor Impairment Neural Disorders from EEG Signals Using Deep Convolutional Neural Networks

Grega Vrbancic, Vili Podgorelec (Slovenia)
Presenter: Grega Vrbancic (Slovenia)

8A.4. Drive Mode Estimation for Electric Vehicles via Fuzzy Logic

Fecir Duran, Suleyman Ceven, Raif Bayir (Turkey)
Presenter: Raif Bayir (Turkey)

8A.5. Detection of the Trench Depth Based on a Differential Inertial Sensor Technology

Wang Xin, Peng Bingzhong, Bogdan Miedzinski, Hu Baoyan, Xu Miao (China, Poland)
Presenter: Bogdan Miedzinski (Poland)

8A.6. Recognition of Road Type and Quality for Advanced Driver Assistance Systems with Deep Learning

Vedat Tumen, Ozal Yildirim, Burhan Ergen (Turkey)
Presenter: Vedat Tumen (Turkey)

15:00–15:30 COFFEE BREAK

15:30
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17:00

SPECIAL SESSION 9A | FRACTIONAL-ORDER SYSTEMS AND THEIR UTILIZATION

Chair: Arnold Knott (Denmark)

9A.1. Evaluation of $(1 + \alpha)$ Fractional-Order Approximated Butterworth High-Pass and Band-Pass Filter Transfer Functions

David Kubanek, Todd Freeborn, Jaroslav Koton, Norbert Herencsar (Czech Republic, USA)
Presenter: David Kubanek (Czech Republic)

9A.2. ABC Algorithm Based System Modelling for Tuning the Fractional Order PID Controllers

Halit Senberber, Aytekin Bagis (Turkey)
Presenter: Halit Senberber (Turkey)

9A.3. Fully-Differential Multifunctional Electronically Configurable Fractional-Order Filter with Electronically Adjustable Parameters

Lukas Langhammer, Roman Sotner, Jan Dvorak, Tomas Dostal (Czech Republic)
Presenter: Lukas Langhammer (Czech Republic)

9A.4. Systems with Fractional Variable-Order Difference Operator of Convolution Type and Its Stability

Dorota Mozyrska, Malgorzata Wyrwas (Poland)
Presenter: Dorota Mozyrska (Poland)

15:30 **9A.5. Multifunctional Electronically Reconfigurable and Tunable
– Fractional-Order Filter**

17:00 Jan Dvorak, Jan Jerabek, Zuzana Polesakova, David Kubanek,
Petr Blazek (Czech Republic)
Presenter: David Kubanek (Czech Republic)

**9A.6. Practical Position Tracking Control of a Robotic Manipulator
Based on Fractional Order Sliding Mode Controller**

Ahmet Dumlu (Turkey)
Presenter: Ahmet Dumlu (Turkey)

9A.7. Neuron Circuit Based on CCII-

Yunus Babacan, Abdullah Yesil, Mustafa Konal, Firat Kacar (Turkey)
Presenter: Mustafa Konal (Turkey)

18:00–22:00 BUS TRIP AND CONFERENCE DINNER

ROOM B

9:00 **SESSION 3B | SYSTEM ENGINEERING,
– COMPUTER TECHNOLOGY**

10:30 **Chair: Jozsef Suto (Hungary)**

**3B.1. Method of Early Staged Cyber Attacks Detection in IT and
Telecommunication Networks**

Saulius Japertas, Tautvydas Baksys (Lithuania)
Presenter: Tautvydas Baksys (Lithuania)

**3B.2. Pairwise Error Probability Analysis of Low Density Parity Check
Coded Asynchronous Distributed Space Time Block Codes**

Varsha Vimal Sood, Surbhi Sharma, Rajesh Khanna (India)
Presenter: Varsha Vimal Sood (India)

**3B.3. Improved Degraded Document Image Binarization Using Median
Filter for Background Estimation**

Mehdi Khitas, Lahcene Ziet, Saad Bouguezel (Algeria)
Presenter: Mehdi Khitas (Algeria)

**3B.4. Combined Electricity and Hydraulic Analysis of Cascade Heating
Supply Infrastructure with EA-PSM Software**

Vytautas Sioziny, Milvydas Sioziny, Mantas Kaminickas,
Martynas Jonaitis, Arunas Rimkus (Lithuania)
Presenter: Martynas Jonaitis (Lithuania)

9:00 **3B.5. Simulation and Experiments of Active Greenhouse Heating System**
– Zhang Yuanyuan, Wang Xin, Ma Yibo, Xu Baoyan, Sun Dong (China)
10:30 *Presenter: Yuanyuan Zhang (China)*

3B.6. Covariance Features for Trajectory Analysis
Talha Karadeniz, Hakan Hadi Maras (Turkey)
Presenter: Hakan Hadi Maras (Turkey)

10:30–11:00 COFFEE BREAK

11:00 **SESSION 4B | ELECTRONIC MEASUREMENTS**
– *Chair: Adam Idzkowski (Poland)*

12:30 **4B.1. On the Impact of Amplitude Variation on Interpolated DFT Method and How to Reduce It**
Wojciech Oliwa, Grzegorz Wieczorek (Poland)
Presenter: Wojciech Oliwa (Poland)

4B.2. Inspection of Dissimilar Material Joints Using Ultrasonic Phased Arrays
Damira Smagulova, Elena Jasiuniene (Lithuania)
Presenter: Damira Smagulova (Lithuania)

4B.3. Acceleration of Digital Stochastic Measurement Simulation
Velibor Pjevalica, Nebojsa Pjevalica, Ivan Kastelan, Nenad Petrovic (Serbia)
Presenter: Nebojsa Uros Pjevalica (Serbia)

4B.4. Model Based Ultrasonic Measurement Technique for Evaluation of the Adhesive Properties
Dobilas Liaukonis, Liudas Mazeika, Rimantas Barauskas, Audrius Neciunas (Lithuania)
Presenter: Dobilas Liaukonis (Lithuania)

4B.5. CAN Communication Based Modular Type Battery Management System for Electric Vehicles
Mustafa Turgut, Raif Bayır, Fecir Duran (Turkey)
Presenter: Raif Bayir (Turkey)

4B.6. Analytic Approach for 2D Phased Array Delay Law Calculation in Case of Inspection of Objects with Complex Geometry
Tautvydas Fyleris, Elena Jasiuniene (Lithuania)
Presenter: Tautvydas Fyleris (Lithuania)

12:30–13:30 CONFERENCE LUNCH

13:30 **SESSION 5B | ELECTRONICS**

– **Chair: Toomas Rang (Estonia)**

15:00

5B.1. Hardware Efficient Reciprocal Using Second Order Harmonized Parabolic Synthesis and Squaring Shrunk Method

Jun Luo, Hongwei Luo, Yue Zhi, Xiaoqiang Wang, Hongfeng Lv, Ming Dang (China)

Presenter: Jun Luo (China)

5B.2. A Control for an Unbalanced 3-Phase Load in UPS Systems

Zbigniew Rymarski, Krzysztof Bernacki, Lukasz Dyga (Poland)

Presenter: Lukasz Dyga (Poland)

5B.3. Modelling of High Frequency Converter Transformer with Floating Active Inductor

Mustafa Konal, Mehmet Onur Gulbahce, Cengiz Polat Uzunoglu, Firat Kacar (Turkey)

Presenter: Mustafa Konal (Turkey)

5B.4. Identification of the Specification Parameters for a Voltage Controlled Oscillator Using an Artificial Neural Network with a Genetic Algorithm

Sebastian Temich, Lukas Chruszczyk, Damian Grzechca (Poland)

Presenter: Sebastian Temich (Poland)

5B.5. Comparative Analysis of High Power Density Bidirectional DC-DC Converters for Portable Energy Storage Applications

Kostiantyn Tytelmaier, Janis Zakis, Oleksandr Husev, Oleksandr Veligorskyi, Maksym Khomenko, Dmitri Vinnikov (Ukraine, Estonia, Latvia)

Presenter: Janis Zakis (Latvia)

5B.6. Adaptive FIR Filtering Using ABC Algorithm: A Noise Reduction Application on Mitral Valve Doppler Signal

Serdar Kockanat, Turker Koza, Nurhan Karaboga, Ahmet Logoglu (Turkey)

Presenter: Ahmet Logoglu (Turkey)

15:00–15:30 COFFEE BREAK

15:30

SESSION 6B | RENEWABLE ENERGY

–

Chair: Audrius Grainys (Lithuania)

17:00

6B.1. Optimization of Medium Voltage Distribution Network Structure Based on Total Supply Capability Improvement

Weiqing Sun, Shuangrui Jia, Jingyuan Yang, Wei Zhang (China)

Presenter: Shuangrui Jia (China)

6B.2. Simultaneous Optimization of Network Reconfiguration and DG Installation Using Heuristic Algorithms

Ahmet Dogan, Mustafa Alci (Turkey)

Presenter: Ahmet Dogan (Turkey)

6B.3. Decentralized Dynamic Power Management with Local Information

Jing Li, Guang Lin, Yu Huang (China, USA)

Presenter: Jing Li (China)

6B.4. Heuristic Optimization of EV Charging Schedule Considering Battery Degradation Cost

Ahmet Dogan, Mustafa Alci (Turkey)

Presenter: Ahmet Dogan (Turkey)

6B.5. Stability Analysis of Multi-Inverters Grid-Connected System Using Improved Current Source Impedance Ratio Criterion

Hu Guozhen, Mao Ling, Liu Jun, Zhang Lei, Fang Zhi Jian (China)

Presenter: Guozhen Hu (China)

6B.6. A Day-Ahead Optimal Economic Dispatch Schedule for Building CCHP System Based on Centralized Energy Storage Infrastructure

Zeng Aidong, Hao Sipeng, Xu Qingshan, Liu Yujun, Huang Yu (China)

Presenter: Aidong Zeng (China)

18:00–22:00 BUS TRIP AND CONFERENCE DINNER



Wednesday, 20th June, 2018

ROOM A

9:00

SESSION 10A | SIGNAL TECHNOLOGY

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Chair: Linas Svilainis (Lithuania)

10:30

10A.1. A Low-Complexity Joint TOAs and AOAs Parameter Estimator Using Dimension Reduction for FMCW Radar Systems

Sangdong Kim, Yeonghwan Ju, Jonghun Lee (South Korea)

Presenter: Sangdong Kim (South Korea)

10A.2. Sparse Reconstruction Method for Separating Cardiac and Respiratory Components from Electrical Bioimpedance Measurements

Maksim Butsenko, Olev Martens, Andrei Krivosei,

Yannick Le Moullec (Estonia)

Presenter: Maksim Butsenko (Estonia)

10A.3. Diagnosis of Bearing Outer Race Faults Using a Low-Cost Non-Contact Method with Advanced Wavelet Transforms

Madhusudhana Reddy Barusu, Umamaheswari Sethurajan, Meganathan Deivasigamani (India)

Presenter: Madhusudhana Reddy Barusu (India)

10A.4. Design and Implementation of FMCW Surveillance Radar Based on Dual Chirps

Youngseok Jin, Bong-seok Kim, Sangdong Kim, Jonghun Lee (South Korea)

Presenter: Jonghun Lee (South Korea)

10A.5. Support Region of Semilogarithmic Quantizer for Laplacian Source

Zoran H. Peric, Sinisa B. Suzic, Tijana V. Delic, Nikola Simic (Serbia)

Presenter: Sinisa Suzic (Serbia)

10A.6. Low-Cost Solution for Magnetic Field Mapping Device

Kaspars Erglis, Janis Cimurs, Guntars Kitenbergs (Latvia)

Presenter: Kaspars Erglis (Latvia)

10:30–11:00 COFFEE BREAK

11:00 **SESSION 11A | SYSTEM ENGINEERING, COMPUTER**
– **TECHNOLOGY**

12:30 **Chair: Pawel Dworak (Poland)**

11A.1. Music Stimuli Recognition in Electroencephalogram Signal

Jozsef Suto, Stefan Oniga (Hungary)

Presenter: Jozsef Suto (Hungary)

11A.2. Advanced Recognition of Lithuanian Digit Names Using Hybrid Approach

Kastytis Ratkevicius, Gintare Paskauskaitė, Gintare Bartisiute (Lithuania)

Presenter: Gintare Paskauskaitė (Lithuania)

11A.3. A Novel Concept of Electrical Stimulation of Touchscreens Used for Automated Verification of Mobile Devices

Ivan Kastelan, Vukota Pekovic, Nikola Teslic (Serbia)

Presenter: Ivan Kastelan (Serbia)

11A.4. Application of Local Outlier Factor Algorithm to Detect Anomalies in Computer Network

Juozas Auskalnis, Nerijus Paulauskas, Algirdas Baskys (Lithuania)

Presenter: Nerijus Paulauskas (Lithuania)

11A.5. IWD Based Feature Selection Algorithm for Sentiment Analysis

Tuba Parlar, Esra Sarac (Turkey)

Presenter: Tuba Parlar (Turkey)

11A.6. Development and Testing of a Compact Voice Command Recognition Algorithm for Limited Complexity Microcontroller Devices

Andres Udal, Andri Riid, Martin Jaanus, Kaiser Parnamets,

Madis Lokuta (Estonia)

Presenter: Martin Jaanus (Estonia)

12:30–13:30 CONFERENCE LUNCH

13:30 **SESSION 12A | ELECTRICAL ENGINEERING**

– **Chair: Janis Zakis (Latvia)**

15:00 **12A.1. Evaluation Index System of Power Supply Margin in Distribution Network**

Weiqing Sun, Jingyuan Yang, Shuangrui Jia, Wei Zhang (China)

Presenter: Shuangrui Jia (China)

13:30 **12A.2. Effects on Load-Frequency Control of a Solar Power System with
– a Two-Area Interconnected Thermal Power Plant and its Control with a
15:00 New BFA Algorithm**

Zafer Civelek, Goksu Gorel, Murat Luy, Necaattin Barisci,
Ertugrul Cam (Turkey)
Presenter: Goksu Gorel (Turkey)

12A.3. Control of AC/DC Modular Multilevel Converter
Vojtech Blahnik, Tomas Kosan, Zdenek Peroutka, Jakub Talla (Czech Republic)
Presenter: Vojtech Blahnik (Czech Republic)

12A.4. A Novel Self-Powered Smart Current Sensor for Power Equipment
Jie Ren, Yong Sun, Shuo Zhang, Shidong Zhang, Yadong Liu, Kejun Li,
Xiucheng Jiang (China)
Presenter: Li Kejun (China)

**12A.5. Turbine Fast Valving Study by the Use
of a Steam Turbine Real-Time Simulator**
Maciej Kielian, Robert Lis (Poland)
Presenter: Maciej Kielian (Poland)

**12A.6. Determination of Flicker Contribution Level
by Using Proposed Index**
Murat Silsupur, Belgin Emre Turkay (Turkey)
Presenter: Murat Silsupur (Turkey)

15:00–15:30 ELECTRONICS 2018 CLOSING SESSION IN ROOM B

ROOM B

9:00 **SESSION 7B | TELECOMMUNICATIONS ENGINEERING**
– **Chair: Nerijus Paulauskas (Lithuania)**

10:30 **7B.1. Development of IQRF Technology: Analysis, Simulations and
Experimental Measurements**
Radek Fujdiak, Petr Mlynek, Lukas Malina, Milos Orgon, Jan Slacik, Petr
Blazek, Jiri Misurec (Czech Republic, Russia, Slovakia)
Presenter: Petr Mlynek (Czech Republic)

**7B.2. WCNE: A Weighted Clusterhead Node Election Algorithm for
MANET**
Leszek Nowosielski, Jaroslaw Michalak, Wojciech Bednarczyk (Poland)
Presenter: Jaroslaw Michalak (Poland)

- 9:00 **7B.3. GA Based on Estimation of Sparse MIMO Channels with Superimposed Training**
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10:30 Babar Mansoor, Syed Junaid Nawaz, Moazzam Islam Tiwana, Junaid Ahmed, Abdul Haseeb (Pakistan)
Presenter: Babar Mansoor (Pakistan)
- 7B.4. Implementing BPL Transmission in MV Cable Network Effectively**
Grzegorz Debita, Marcin Habrych, Andrzej Tomczyk, Bogdan Miedzinski, Jan Wandzio (Poland)
Presenter: Grzegorz Debita (Poland)
- 7B.5. Design of Wireless Sensor Networks for Building Management Systems**
Nikolajs Bogdanovs, Andris Krumins, Romualds Belinskis (Latvia)
Presenter: Nikolajs Bogdanovs (Latvia)
- 7B.6. Multicast Resource Allocation with Opportunistic Scheduling in LTE Networks**
Mohammed Algharem, Mohammed Hasbullah Omar, Ismat Aldmour, Rahmat Budiarto (Malaysia, Saudi Arabia)
Presenter: Ismat Aldmour (Saudi Arabia)

10:30–11:00 COFFEE BREAK

- 11:00 **SESSION 8B | AUTOMATION, ROBOTICS**
–
12:30 **Chair: Petr Mlynek (Czech Republic)**
- 8B.1. Q-Learning Based Failure Detection and Self-Recovery Algorithm for Multi-Robot Domains**
Hatice Hilal Ezercan Kayir (Turkey)
Presenter: Hatice Hilal Ezercan Kayir (Turkey)
- 8B.2. Synthesis of PI Controller with a Simple Set-Point Filter for Unstable First-Order Time Delay Processes and Integral Plus Time Delay Plant**
Radmila Vladimir Gerov, Zoran Jovanovic (Serbia)
Presenter: Radmila Vladimir Gerov (Serbia)
- 8B.3. Real-Time Speed Control of an Electrically Powered Wheelchair by Using Fractional Order Model Reference Adaptive System Control**
Kagan Koray Ayten (Turkey)
Presenter: Kagan Koray Ayten (Turkey)

11:00 – 12:30 **8B.4. Decentralized Controller Robustness Improvement Using Longitudinal Overlapping Decomposition - Application to Web Winding System**

Doghmane Mohamed Zinelabidine, Kidouche Madjid (Algeria)
Presenter: Mohamed Zinelabidine Doghmane (Algeria)

8B.5. Design and Implementation of an Expressive

Talking Mobile Robot: TozTorUs
Ozalp Tozan, Hakan Tora, Baran Uslu, Bulent Unal, Ece Ceylan (Turkey)
Presenter: Ece Ceylan (Turkey)

8B.6. An Adaptive-Fuzzy Fractional-Order Sliding Mode Controller Design for an Unmanned Vehicle

Kamil Orman, Kaan Can, Abdullah Basci, Adnan Derdiyok (Turkey)
Presenter: Kaan Can (Turkey)

12:30–13:30 CONFERENCE LUNCH

SESSION 9B

Chairs: Algimantas Valinevicius, Darius Andriukaitis

Closed Meeting

Editorial Board Meeting of the Research Journal of Elektronika ir Elektrotechnika

15:00–15:30 ELECTRONICS 2018 CLOSING SESSION

Contacts

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