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Faculty of Electronic Engineering and Technologies



XXXIII INTERNATIONAL SCIENTIFIC CONFERENCE

# ELECTRONICS ET 2024

IEEE CONFERENCE RECORD # 63133

## PROGRAMME

**Sponsored by:**

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Faculty of Electronic Engineering and Technologies, TU – Sofia  
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Science Days of Technical University of Sofia  
Hotel "Lazur"  
September 17 - 19, 2024  
Sozopol, Bulgaria

The conference will be held as a hybrid event. Both in [HALL 1](#) and [HALL 2](#) will be possible online and physical presentation. The links are embedded in the programme.

The registration of the participants is possible online and on-site. It is preferred to be [online](#).

**THE XXXIII INTERNATIONAL SCIENTIFIC CONFERENCE “ELECTRONICS ET 2024” IS ORGANIZED BY TECHNICAL UNIVERSITY OF SOFIA, FACULTY OF ELECTRONIC ENGINEERING AND TECHNOLOGIES, BULGARIA IN CO-OPERATION WITH DELFT UNIVERSITY OF TECHNOLOGY, THE NETHERLANDS**

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<b>Tracks</b>	<b>Track chairs</b>
Biomedical Engineering	Ivo Iliev – Bulgaria Irena Jekova – Bulgaria Vessela Krasteva – Bulgaria
Circuits and Systems	Emil Manolov – Bulgaria Ivaylo Pandiev – Bulgaria Tsvetana Grigorova – Bulgaria
Testing, Quality and Reliability	Anna Stoynova – Bulgaria Anton Georgiev – Bulgaria Ivan Evstatiev – Bulgaria
Education, Learning Technologies and Human Resources Development	Rossen Radonov – Bulgaria Tanichka Vasileva – Bulgaria Katya Asparuhova - Bulgaria
Embedded Systems	Grisha Spasov – Bulgaria Jeroen Boydens – Belgium Nikolay Kakanakov – Bulgaria
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Microelectronics	George Angelov – Bulgaria Stoyan Nihtianov – The Netherlands Elitsa Gieva – Bulgaria
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Power Electronics	Nikolay Hinov – Bulgaria Darius Andriukaitis – Lithuania Dimitar Arnaudov – Bulgaria Nikolay Madzharov – Bulgaria

<b>Tuesday, September 17, 2024</b>	
1:00 p.m. EET	<b>Registration of participants</b> ( <a href="#">HALL 1</a> )
4:00 p.m. EET	<b>Official opening of the Conference</b> ( <a href="#">HALL 1</a> ) <b>Plenary session</b> <b>1. Pasquale Daponte.</b> Measuring from the Sky: UAV-based Instruments. <i>University of Sannio - Benevento, Italy</i> <b>2. Ulrich Hensel.</b> More Effective Automotive Design: Advancing Reliability Methodology. <i>GlobalFoundries, Dresden, Germany</i> <b>3. Ivan Tashev.</b> Workload Estimation using Bio-signals for Adaptive Training System. <i>Microsoft Research Labs – Redmond, USA</i>
7:30 p.m. EET	<b>Welcome party</b>

<b>Wednesday, September 18, 2024</b>	
9:00 a.m. EET	Oral Session A ( <a href="#">HALL 1</a> )
9:00 a.m. EET	Poster Session B ( <a href="#">HALL 2</a> ) Education, Learning Technologies and Human Resources Development Testing, Quality and Reliability Microelectronics Nanoelectronics and Technologies in Electronics
2:00 p.m. EET	Oral Session C ( <a href="#">HALL 1</a> )
2:00 p.m. EET	Poster Session D ( <a href="#">HALL 2</a> ) Circuits and Systems Embedded Systems Biomedical Engineering
5:00 p.m. EET	<b>Five o'clock tea party</b>
7:30 p.m. EET	<b>Official dinner</b>

<b>Thursday, September 19, 2024</b>	
9:00 a.m. EET	Oral Session E ( <a href="#">HALL 1</a> )
9:00 a.m. EET	Poster Session F ( <a href="#">HALL 2</a> ) Instrumentation and Measurement Power Electronics
1:00 p.m. EET	<b>Closing of the Conference</b> ( <a href="#">HALL 1</a> )

**Session A****Chairman – Pasquale Daponte**

- A.1. P. Daponte, L. De Vito, I. Tudosa, A. Neyestani, F. Picariello.** Development and Evaluation of a Novel MarkerBased Tracking System for 3D-Scaled Masonry Models using DeepTag. *University of Sannio, Benevento, Italy - 20 min*
- A.2. A. Anuchin, K. Fedorova, V. Podzorova, D. Savkin, D. Aliamkin, M. Lashkevich.** Current Derivative Measurement Using Isolated Delta-Sigma Modulator. *Moscow Power Engineering Institute, Russia - 20 min*
- A.3. C. Hajiyev, T. Erkec, U. Hacizade, D. Cilden-Guler.** Adaptive Kalman Filter with Probabilistic Gain Adjustment for Estimation of Satellite Position in the Presence of Measurement Faults. *Istanbul Technical University, Turkish National Defence University, Halic University, Istanbul, Turkiye - 20 min*
- A.4. S. Ismaili, F. Idrizi, A. Rustemi, M. Ibraimi, H. Idrizi.** IoT-Based Irrigation System for Smart Agriculture. *University of Tetovo, N. Macedonia - 20 min*
- A.5. C. Hajiyev, U. Hacizade.** Q-adaptive AKF for Estimation of UAV dynamics in the Case of Biased Process Noise. *Istanbul Technical University, Halic University, Istanbul, Turkiye - 20 min*
- A.6. Y. Ali, A. Anuchin, K. Fedorova, D. Savkin, M. Lashkevich, X. Yuan.** Active Damping of Motor Side Overvoltage in a Three-phase SiC Inverter Based Motor Drive. *Moscow Power Engineering Institute, Russia, China University of Mining and Technology, Xuzhou, China - 20 min*

**Session B****Education, Learning Technologies and Human Resources Development****Chairman – Rossen Radonov**

- B.P1. B. Bonev, P. Yakimov.** Application of Open-Source Software in Analog and Mixed-signal Circuits Education. *Technical University of Sofia, Bulgaria - 5 min*
- B.P2. A. Borodzhieva, G. Basriev.** An Unconventional Solution to the Problem of Implementing Three-Input Logic Functions Using 74xx Series Multiplexers. *University of Ruse “Angel Kanchev”, Bulgaria - 5 min*
- B.P3. K. Asparuhova, D. Shehova, S. Asenov, H. Kanevski, A. Parushev.** Using WOKWI Simulator to Support Engineering Student Learning in Microcontrollers and

Sensors. *Technical University of Sofia, Plovdiv University "Paisii Hilendarski", Bulgaria - 5 min*

- B.P4.** A. Borodzhieva, S. Zaharieva. Computer-Based Design of Active Second-Order Band-Pass Filters with a Single Voltage-Controlled Voltage Source and a Single-Loop Feedback Modeled by the Sallen–Key Architecture. *University of Ruse "Angel Kanchev", Bulgaria - 5 min*
- B.P5.** A. Kostadinov. Application of Artificial Intelligence in Hardware Description Languages Education. *Technical University of Sofia, Branch Plovdiv, Bulgaria - 5 min*
- B.P6.** A. Borodzhieva, S. Zaharieva. Investigation of Linear Discrete Time-Invariant Systems Models Using MATLAB and Signal Processing Toolbox. *University of Ruse "Angel Kanchev", Bulgaria - 5 min*
- B.P7.** D. Kashokova, A. Tokmakova, S. Asenov. Artificial Intelligence in Teaching Students on Microcontrollers and Embedded Systems. *Plovdiv University "Paisii Hilendarski", Bulgaria - 5 min*
- B.P8.** H. Kanevski, S. Asenov, D. Shehova, S. Lyubomirov, K. Asparuhova, P. Fidanski. Laboratory Bench of a Driver's Authorization System with Application in Engineering Education. *Plovdiv University "Paisii Hilendarski", Technical University of Sofia, Bulgaria - 5 min*
- B.P9.** K. Kostova, G. Marinova. Knowledge-Base for Passive Elements Tools Selection in the Online CADCOM Platform. *Technical University of Sofia, Bulgaria - 5 min*
- B.P10.** S. Pleshkova, A. Bekiarski. Speaker Identification Algorithm Using Biometric Speech Features in Deep Learning Neural Network. *Technical University of Sofia, Bulgaria - 5 min*
- B.P11.** S. Pleshkova, A. Bekiarski. Generative Audio Steganography Algorithm. *Technical University of Sofia, Bulgaria - 5 min*
- B.P12.** A. Reviriego, R. Raynova. Naïve Bayes and Logistic Regression for Sentiment Analysis and Emotion Detection from Text. *Public University of Navarre, Spain, Bulgaria, Technical University of Sofia, Bulgaria - 5 min*
- B.P13.** A. Ivanov. Python Toolkit for Non-integer Calculus. *Burgas Free University, Bulgaria - 5 min*
- B.P14.** R. Petkov. Micro-credentials Design and Recognition Aspects - Outcome based Design with Projects Examples. *Technical University of Sofia, Bulgaria - 5 min*
- B.P15.** I. Valova. Research and Analysis of the Execution of Different Types of SQL Queries with Impala in Cloudera in Education. *University of Ruse "Angel Kanchev", Bulgaria - 5 min*
- B.P16.** D. Minkovska, E. Antonova. Human VS AI-Generated Content: Where to Draw the Line? *Technical University of Sofia, Bulgaria - 5 min*
- B.P17.** I. Dochev, L. Docheva, S. Manev. Study of Asynchronous Telecommunication System, based on Code Division Multiple Access (CDMA). *Technical University of Sofia, Bulgaria - 5 min*
- B.P18.** A. Tokmakova, N. Mileva. Analysis of the Retention Process of Business Customers in the Telecom Industry. *Plovdiv University "Paisii Hilendarski", Bulgaria - 5 min*

- B.P19. R. Popov, A. Parushev, A. Chekichev, N. Paunkov.** Remote Monitoring of the Atmosphere Air Quality. *Plovdiv University "Paisii Hilendarski", Technical University of Sofia, Branch Plovdiv, Bulgaria - 5 min*
- B.P20. R. Dimitrova.** Data Protection in the Field of Automated and Connected Vehicles. *Technical University of Sofia, Bulgaria - 5 min*
- B.P21. I. Stankov, G. Hristov, I. Ivanova.** Cryptocurrency – a Curious Event in Modern Day Society. *Technical University of Sofia, Sofia University "St. Kliment Ohridski", Bulgaria - 5 min*
- B.P22. R. Dimitrova.** Legal Framework of Automated Vehicles: Comparative Analysis and Proposals for Regulation in Bulgaria. *Technical University of Sofia, Bulgaria - 5 min*

### Testing, Quality and Reliability

#### Chairman – Anna Stoynova

- B.P23. G. Popov, A. Popova.** A Semi-Markovian Model of the Spread of Viruses in a Computer System. *Technical University of Sofia, Bulgaria - 5 min*
- B.P24. I. Stankov, E. Dulgerov.** Detection of Deepfake Images and Videos Using SVM, CNN, and Hybrid Approaches. *Technical University of Sofia, Bulgaria - 5 min*
- B.P25. R. Dimitrova.** Modernization of Automated System for Examination of the Closing of Screw Cap Vessels. *Technical University of Sofia, Bulgaria - 5 min*
- B.P26. A. Mihaylova, R. Velichkova, I. Simova.** Modelling Distribution of Fire in Apartments: Case Study in Bulgaria. *Technical University of Sofia, Bulgaria - 5 min*

### Microelectronics

#### Chairman – Ivaylo Zhivkov

- B.P27. R. Rusev.** Piezo-photosensitive Device from Fast Green FCF and Rochelle Salt Layers. *Technical University of Sofia, Bulgaria - 5 min*
- B.P28. R. Rusev, G. Angelov, D. Nikolov, R. Rusev.** Moisture and Temperature Impact on the Delamination in ICs during Soldering. *Technical University of Sofia, Bulgaria - 5 min*

### Nanoelectronics and Technologies in Electronics

#### Chairman – Ivaylo Zhivkov

- B.P29. R. Tomov, V. Strijkova, V. Katrova, M. Aleksandrova.** Investigation of Spray-Coated Titanium Carbide MXene Thin Films and Their Application in Biosensors. *Technical University of Sofia, Bulgarian Academy of Sciences, Bulgaria - 5 min*
- B.P30. V. Tsenev, P. Petkova.** Combined Footprint - Results and Conclusions: Review. *Technical University of Sofia, Bulgaria - 5 min*



[HALL 1](#),

Wednesday,

September 18, 2024

2:00 p.m. EET

Session C

Chairman – Stoyan Nihtyanov

- C.1. A. Tzanov.** Linear scaling GPU enabled simulations of Nano-electronic devices. *City University of New York, USA - 20 min*
- C.2. P. Fang, S. Nihtianov.** A Comparative Analysis of the Junction Formation Mechanisms of the Boron on Silicon Junction. *TU Delft, The Netherlands - 20 min*
- C.3. T. Stoilov.** Inventory Modeling for Disbursements Management. *Bulgarian Academy of Sciences, Bulgaria - 20 min*
- C.4. K. Stoilova.** Time Series Salaries Prediction. *Bulgarian Academy of Sciences, Bulgaria - 20 min*

[HALL 2](#),

Wednesday,

September 18, 2024

2:00 p.m. EET

Session D

Circuits and Systems

Chairman – Georgy Mihov

- D.P1. D. Sami, D. Levski, A. Manukova.** Integrated single-stage column AFE for CMOS image sensor single slope ADCs. *University of Ruse “Angel Kanchev”, Bulgaria - 5 min*
- D.P2. S. Rizanov, A. Stoynova, N. Kafadarova, S. Sotirov, B. Bonev, V. Marinkova.** The Utility of Evolutionary and Genetic Computing in Battery Modeling. *Technical University of Sofia, Plovdiv University "Paisii Hilendarski", Bulgaria - 5 min*
- D.P3. P. Minev, V. Kukenska, M. Dinev, I. Varbov.** Improving the Area-Delay Tradeoff for Academic FPGA Architectures by Applying Rent's Rule to Logic Block Modeling. *Technical University of Gabrovo, Bulgaria - 5 min*
- D.P4. B. Petrov.** Universal Digital Architecture with the Ability to Learn Behavior based on Self-Generated Questions. *Technical University of Sofia, Branch Plovdiv, Bulgaria - 5 min*
- D.P5. L. Bogdanov.** Power Cut Detection Circuit for Embedded Systems. *Technical University of Sofia, Bulgaria - 5 min*
- D.P6. S. Zaharieva, M. Stoyanov, A. Borodzhieva.** Electronic System for Remote Control of Foundry Furnace. *University of Ruse “Angel Kanchev”, Bulgaria - 5 min*
- D.P7. P. Marinov.** Recognition of Human Actions in an Object Environment in Videos. *Technical University of Sofia, Bulgaria - 5 min*

## Embedded Systems

### Chairman – Grisha Spasov

- D.P8. K. Angelov, N. Manchev, R. Pasarelski, H. Stoycheva.** IoT based Vehicle Tracking System in Smart City Concept. *Technical University of Gabrovo, New Bulgarian University, Bulgaria - 5 min*
- D.P9. S. Rizanov, P. Yakimov, D. Nikolov, J. Boydens.** An Embedded Cellular Automata Algorithm for Infrared Object Detection. *Technical University of Sofia, Bulgaria, KU Leuven, Belgium - 5 min*
- D.P10. M. Ivanova, S. Stefanov.** Regarding Artificial Intelligence in Digital Forensic Investigation: Applications and Solutions. *Technical University of Sofia, Bulgaria - 5 min*
- D.P11. R. Ilieva, G. Stoilova.** Challenges of AI-Driven Cybersecurity. *Technical University of Sofia, Bulgaria - 5 min*

## Biomedical Engineering

### Chairman – Ivo Iliev

- D.P12. L. Bogdanov, I. Iliev, S. Tabakov, N. Kadiev.** Comparative analysis of two FPGA-based QRS Detection Implementations. *Technical University of Sofia, Bulgaria - 5 min*
- D.P13. G. Mihov, S. Rizanov.** FPGA Implementation of Combined High-pass and Notch Filter. *Technical University of Sofia, Bulgaria - 5 min*
- D.P14. T. Neycheva, D. Dobrev.** Intuitive Approach to Active Digital Filter Design. Part III: Principle of Higher-order High-pass Filters. *Bulgarian Academy of Sciences, Bulgaria - 5 min*
- D.P15. D. Dobrev, T. Neycheva.** Intuitive Approach to Active Digital Filter Design. Part IV: Principle of Active Biquads. *Bulgarian Academy of Sciences, Bulgaria - 5 min*
- D.P16. I. Iliev, N. Kadiev.** Blood Pressure Monitoring – Methods and Current Trends. *Technical University of Sofia, Bulgaria - 5 min*
- D.P17. H. Radev, G. Petrova, G. Spasov.** Driver Physiological Parameters Monitoring – Initial Study in Real-road Driving. *Technical University of Sofia, Branch Plovdiv, Bulgaria - 5 min*
- D.P18. D. Nikolaeva, M. Georgiev, V. Bozhikova, D. Petrova, M. Stoeva.** Using Digital Technologies in Mental Health Care. *Technical University of Varna, Bulgaria - 5 min*
- D.P19. I. Georgiev, V. Nikolov, I. Chavdarov, B. Naydenov.** Grasp planning and sign language gestures with 3D printed humanoid hand. *Bulgarian Academy of Sciences, Sensata Technologies, Sofia University “St. Kliment Ohridski”, Bulgaria - 5 min*
- D.P20. T. Minev, Z. Bliznakov, N. Dukov, K. Bliznakova.** Development and Initial Results of 3D Printed Models Using In-House Designed Device and Software. *Medical University of Varna, Bulgaria - 5 min*

[HALL 1](#),

Thursday,

September 19, 2024

9:00 a.m. EET

**Session E**

**Chairman – Jeroen Boydens**

- E.1. S. Ramachandra, J. Vankeirsbilck, J. Boydens.** On Automatic Assessment of Data Generated by Safety and Security Activities. *KU Leuven, Belgium - 20 min*
- E.2. P. Karydopoulos, G. Tyrannidis, E. Tselegkaridou, I. Kudlaienko.** Comparative analysis of Remote Access Data Recovery Methods: Introducing a Novel Approach and Hardware. *Computer Systems, Thesssaloniki, Greece - 20 min*
- E.3. K. Bryon, J. Vankeirsbilck, J. Boydens.** Variability Modeling for Parameter-based Configurable Software Architectures. *KU Leuven, Belgium - 20 min*
- E.4. K. Bryon, J. Vankeirsbilck, J. Boydens.** Impact of Multi-Threading on All-SMT Solving. *KU Leuven, Belgium - 20 min*
- E.5. A. Kalayci, U. Hacizade.** Anomaly-Based Intrusion Detection System Design Using Machine Learning Methods. *Halic University, Istanbul, Turkiye - 20 min*
- E.6. U. Hacizade, R. Baskal.** Customer Segmentation and Customer Churn Analysis in Telecommunications Industry. *Halic University, Istanbul, Turkiye - 20 min*

[HALL 2](#),

Thursday,

September 19, 2024

9:00 a.m. EET

**Session F**

**Instrumentation and Measurement**

**Chairman – Stefan Hensel**

- F.1. K. Dimitrov, I. Damyanov.** Height Influence on Thermal Infrared Imaging of Large Objects with Unmanned Aerial Vehicles. *Technical University of Sofia, Bulgaria - 5 min*
- F.2. R. Khlynov, V. Ryzhova, I. Rodionova, S. Yarishev, T. Djamiykov, M. Marinov.** Approaches to Improving the Visualization Accuracy of the Technology of Integrating Functional Near-infrared Spectroscopy with the Brain-computer Interface. *ITMO University, St. Petersburg, Russia, Technical University of Sofia, Bulgaria - 5 min*
- F.3. M. Deneva, M. Nenchev.** A Pure Optical Arrangement Using an Optical Transistor to Form a Temporally Controlled Sequence of Nanosecond Pulses. *Technical University of Sofia, Branch Plovdiv, Bulgaria - 5 min*
- F.4. D. Krasnov, T. Djamiykov.** Improved YOLOv8 Network for Small Objects Detection. *ITMO University, St. Petersburg, Russia, Technical University of Sofia, Bulgaria - 5 min*
- F.5. V. Djamiykov, V. Galabov.** Black Homogeneity Temperature Dependencies in LCD Dechnologies. *Technical University of Sofia, Bulgaria - 5 min*

- F.6. S. Hensel, M. Marinov, A. Elabed.** Simulation Environment for the Evaluation of LiDAR Odometry Algorithms. *University of Applied Sciences Offenburg, Germany, Technical University of Sofia, Bulgaria - 5 min*
- F.7. G. Nikolov, B. Nikolova.** Automated Research of Flexible Sensing Structures. *Technical University of Sofia, Bulgaria - 5 min*
- F.8. B. Ganev, M. Marinov, D. Nikolov, V. Garistov, G. Angelov.** Evaluation of High Precision Temperature Sensors. *Technical University of Sofia, Bulgaria - 5 min*
- F.9. V. Gatev, V. Mollov, P. Petrov, M. Manoeva.** High Accuracy, Fully Reconfigurable DAQ System for Sensing Temperature. *Technical University of Sofia, Bulgaria - 5 min*
- F.10. D. Iliev, M. Marinov.** Optimizing an Embedded System for E-Waste Object Detection. *Technical University of Sofia, Bulgaria - 5 min*
- F.11. B. Nikolova, G. Nikolov, A. Sirakov.** Cloud-Based System for Air Quality Monitoring. *Technical University of Sofia, Bulgaria - 5 min*
- F.12. N. Nikolov, A. Tzanova, K. Koparanov, E. Antonova, D. Minkovska.** Application of IoT in the Study of Biogas Release Parameters. *Technical University of Sofia, Bulgaria - 5 min*
- F.13. H. Hristov, T. Penev, K. Dimitrov.** Investigating the Impact of Temperature-Humidity Index on Eye Temperature in Dairy Cows using Infrared Thermography. *Bulgarian Academy of Sciences, Trakia University, Stara Zagora, Technical University of Sofia, Bulgaria - 5 min*
- F.14. R. Velichkova, I. Simova, M. Pushkarov, A. Stanilov.** A Sustainable Approach to Improve Soil Health. A Case Study for Western Bulgaria. *Technical University of Sofia, Bulgaria - 5 min*
- F.15. M. Tsetkova, E. Anastasova, V. Polimenov, T. Djamiykov, K. Dimitrova.** Remote Sensing for Smart Agriculture – Monitoring Pepper Crops. *Bulgarian Academy of Sciences, Bulgaria - 5 min*
- F.16. S. Rizanov, P. Yakimov.** Wi-Fi HaLow Wildfire Sound Detector. *Technical University of Sofia, Bulgaria - 5 min*
- F.17. R. Vitanov, D. Nikolov.** Comparative Analysis of UWB Transceivers for High-performance Ranging. *Technical University of Sofia, Bulgaria - 5 min*
- F.18. N. Toshev, H. Kanevski, S. Asenov, A. Parushev.** Study of the Automatic Emergency Braking Active Safety System of a Passenger Car. *Plovdiv University "Paisii Hilendarski", Bulgaria - 5 min*
- F.19. D. Ahmedov, K. Nedev, D. Hristov, M. Nedev.** A System for Uninterrupted Diagnostic Diesel Generator Engine. *Nikola Vaptsarov Naval Academy, Varna, Bulgaria - 5 min*
- F.20. A. Zhdanov, V. Ryzhova, P. Kravtsov, S. Yarishev, T. Djamiykov, M. Marinov.** Research of the Influence of Linearly Constrained Spatial Filtering on the Spatial Resolution of an EEG based Neuroimaging Method for BCI Usage. *Russian Academy of Sciences, ITMO University, St. Petersburg, Russia, Technical University of Sofia, Bulgaria - 5 min*
- F.21. P. Kravtsov, V. Ryzhova, S. Yarishev, D. Krasnov, A. Zhdanov, T. Djamiykov, M. Marinov.** Hyperspectral Analytical System Using Artificial Intelligence for Solving

Natural Resource Problems. *ITMO University, St. Petersburg, Russia, Technical University of Sofia, Bulgaria* - **5 min**

### **Power Electronics**

#### **Chairman – Tsvetana Grigorova**

- F.22. N. Nehovski.** High-power Isolated Hybrid Solar Inverter. *Technical University of Sofia, Bulgaria* - **5 min**
- F.23. S. Zahariev.** An Opportunity to Implement a Highly Efficient Battery Charging Process in an Autonomous and Grid-connected PV - system at a Self-moving Robotic Platform Complex. *Technical University of Varna, Bulgaria* - **5 min**
- F.24. T. Hranov, N. Hinov.** Practical Evaluation of Intelligent DC-DC Fast Charger with Embedded System Applications. *Technical University of Sofia, Bulgaria* - **5 min**
- F.25. A. Dekov, N. Hinov, T. Hranov.** Intelligent System for Conducting Experiments with DC/DC Converters. *Technical University of Sofia, Bulgaria* - **5 min**
- F.26. G. Vacheva, P. Stanchev, N. Hinov.** Harmonic Analysis of Transistor Resonance Inverter. *Technical University of Sofia, Bulgaria* - **5 min**
- F.27. G. Vacheva, P. Stanchev, N. Hinov.** LTSpice-Based Stability Analysis of Boost DC-DC Converter for Application in Education of Power Electronics. *Technical University of Sofia, Bulgaria* - **5 min**
- F.28. E. Nikolaev.** Petri Net Modelling for Energy Efficiency Improvement of a Ship. *Technical University of Varna, Bulgaria* - **5 min**
- F.29. B. Markov.** Direct Force Control of the Electromagnetic Force of Linear Induction Motor with End Effects. *University of Food Technologies, Plovdiv, Bulgaria* - **5 min**
- F.30. T. Grigorova, A. Vuchev.** A Study of the Influence of Phase-Shift Controlled LLC Converter Parameters on the Commutating Mechanisms in Continuous Conduction Mode. *Technical University of Sofia, Branch Plovdiv, University of Food Technologies, Plovdiv, Bulgaria* - **5 min**

### **Presentation preparation**

The authors have to prepare presentations following the template from the conference site. The file “Presentation Template” can be reached by clicking on the “Author's Kit” button on the conference site. The number of slides must correspond to the fixed time of the presentation – 20 minutes for oral and 5 minutes for poster presentation. The presentations have to be uploaded in the system till **September, 15**. Presentations which do not match the template will not be accepted.