



49th International Spring Seminar on Electronics Technology

CONFERENCE PROGRAM

Wednesday, 13th of May

16:00	Arrival, Registration, and Accommodation	Location: Hotel Imperial Plovdiv
19:00	Welcome Cocktail	Location: Hotel Imperial Garden
21:00	Steering Committee Meeting	Location: Hotel Imperial Plovdiv, Conf. Room Panorama, Floor 9

Thursday, 14th of May

09:00	Opening session of ISSE 2026	Location: Hotel Imperial Plovdiv, Conf. Room Panorama, Floor 9
--------------	-------------------------------------	---------------------------------------------------------------------------

Welcome Speech from the Organizers
Oliver Krammer, George Angelov

09:15	Oral session I chaired by: O. Krammer and G. Angelov	Location: Hotel Imperial Plovdiv, Conf. Room Panorama, Floor 9
--------------	-------------------------------------------------------------	---------------------------------------------------------------------------

KN01 Micro/Nanoelectronics: Current Status, Outlook, and Reliability Issues
Juin J. Liou (Shandong University of Science and Technology)

C22 Fabrication of Pocket Wafers for Quasi-Monolithic Integration
Jenny Gockeritz (Fraunhofer IPMS)

C78 Process Development for Maskless UV Lithographic Patterning of Polymeric Single-Mode Waveguides
Felix Krober (Technical University of Dresden)

10:45	Coffee break	Location: Hotel Imperial Plovdiv, Floor 9
--------------	---------------------	------------------------------------------------------

11:00	Oral session II chaired by: J. Nicolics and R. Bozomitu	Location: Hotel Imperial Plovdiv, Conf. Room Ball, Floor 9
--------------	----------------------------------------------------------------	-----------------------------------------------------------------------

KN02 Edge-AI: Quo Vadis?
Thomas Schumann (University of Applied Sciences Darmstadt)

F23 3D Printed Circuit Boards from Recycled Plastics: Reliability Testing
Jakub Zdrahal (Czech Technical University in Prague)

F24	Embedded Electronics Demonstrators on Sustainable Wool-reinforced PLA PCBs Attila Geczy (Budapest University of Technology and Economics)	
12:30	Lunch	Location: Hotel Imperial Plovdiv, Restaurant Kristal
13:30	Poster session I chaired by: A. Skwarek and A. Otahal	Location: Hotel Imperial Plovdiv, Conf. Room Ball, Floor 9
C17	Optimizing Fluxless Soldering for Large Area Power Electronics using Formic Acid Vapors Martin Hirman (University of West Bohemia)	
C59	Design of High-Performance Airband Receivers Vlad-Ştefan Hociung (National University of Science and Technology POLITEHNICA Bucharest)	
F04	Micro-power AC-DC Converter with Multiple Output Voltage Levels for Piezoelectric Energy Harvesters Stefan Rizanov (Technical University of Sofia)	
F07	Flame-Retarded and Sustainable Stereolithography Resin for Printed Circuit Boards Lucie Reinsteinova (Czech Technical University in Prague)	
F25	In Search of Appropriate Coatings on Biodegradable PLA/Flax PCB Substrates Attila Geczy (Budapest University of Technology and Economics)	
F36	Glow-wire Flame-retardancy Tests on PLA- Flax Sustainable PCB Substrates Laszlo Feher (Budapest University of Technology and Economics)	
F39	Applicability of IPC 2152 and IPC-TM-650 Standards to PLA/Flax Biodegradable PCB Substrates Adam Csapody (Budapest University of Technology and Economics)	
F45	Ultra-Wideband Patch Antenna Simulated on a Paper-Based Substrate Filip Mahdal (Technical University of Kosice)	
F49	Design of Multi-Band UWB Patch Antenna on Biodegradable Paper-Based Substrate Peter Lukacs (Technical University of Kosice)	
F81	Battery Powered Offline Mobile Backup System Stoyan Ginov Bogdanov (Bulgarian Academy of Science)	
F82	Soldering of Vertically Stacked PCBs with Different Selective Surface Finish Gergo Havellant (Budapest University of Technology and Economics)	
15:00	Coffee break	Location: Hotel Imperial Plovdiv, Floor 9
15:15	Oral session III chaired by: A. Geczy and D. Busek	Location: Hotel Imperial Plovdiv, Conf. Room Ball, Floor 9
KN03	Quality and Reliability of SnAgCu Nano-composite Solder Joints Balázs Illés (Budapest University of Technology and Economics)	
F26	From FR4 to Bio-Based PCB Substrates: Processing Challenges of Flame-Retardant PLA and Novel Electron Beam Strategies Katharina Knez (University of Applied Sciences Dresden)	
16:15	Coffee break	Location: Hotel Imperial Plovdiv, Floor 9
16:30	Poster session II chaired by: T. Blecha and B. Mihailescu	Location: Hotel Imperial Plovdiv, Conf. Room Ball, Floor 9
D05	Corrosion Reliability of SnBiAg-xTiO₂ Low-Temperature Composite Solder Joints Agata Skwarek-Illes (Lukasiewicz - IMIF)	
D28	Validation and Optimization of Machine Learning-Based Intrusion Detection on Automotive Microcontrollers: Simulation-to-Hardware Comparison and Algorithm Refinement	

Nica Ana Maria (Technical University of Cluj-Napoca)

D35 Benchmarking Data Efficiency: Vision Language Models vs. Supervised Object Detection in Industrial Inspection

Vlad Petrascu ("1 Decembrie 1918" University of Alba Iulia)

D51 Influence of SMD Package Size to Embedded Solder Joints' Electrical Resistance

Tomas Lenger (Technical University of Kosice)

D61 Stress Ageing Effects over SiC MOSFET Threshold Voltages

Stefan Rizanov (Technical University of Sofia)

D62 Thermo-electrical Stress Influence over the Reliability of GaN HEMTs

Stefan Rizanov (Technical University of Sofia)

D66 Influence of Curing during Lamination on Embedded Polymer Thick-Film Resistors

Igor Vehec (Technical University of Kosice)

D76 Aluminium Thin Film Formation on FFF-Printed Substrate: Influence of Surface Roughness and UV-Ozone Activation

David Busek (Czech Technical University in Prague)

D79 Electrical Properties Extended Analysis of Alkaline Primary Electrochemical Cells and Commercial Aspects on the CE Market

Igor Vehec (Technical University of Kosice)

H33 Experimental Validation of the H-Field Distribution Above a Planar Coil

Vlad Petrascu ("1 Decembrie 1918" University of Alba Iulia)

E60 HSZT: Dual-Plane Authorization and Assurance for Thinking Swarms

Victor Serban (Politehnica University Timisoara)

19:00 Dinner

Location: Conference Venue

Friday, 15th of May

09:00 Oral session IV chaired by: K. Nieweglowski and P. Lukacs

Location: Hotel Imperial Plovdiv, Conf. Room Panorama, Floor 9

KN04 Diamond as platform for quantum photonics

Christophe Couteau (University of Technology of Troyes)

A55 Application of Cold Spray Technology for Metallization of Ceramic Substrates

Matej Smutny (University of West Bohemia)

A73 Effect of Slurry Composition on the Properties of SOFC Anode Green Tapes

Krzysztof Szostak (Lukasiewicz Research Network - Institute of Microelectronics and Photonics)

S01 Innovation with Heart

Georgi Kostadinov (Melexis Bulgaria)

S02 Globalfoundries - We shape what's essential!

Georgi Postolov (GlobalFoundries)

10:45 Coffee break

Location: Hotel Imperial Plovdiv, Floor 9

11:00 Poster session III chaired by: M. Damnjanovic and P. Markowski

Location: Hotel Imperial Plovdiv, Conf. Room Ball, Floor 9

I06 Passive Dipole Antenna Systems in Biomedical Use

Dietmar Heimes (University of West Bohemia in Pilsen)

I08 Electronic System of a Test Stand for Bogie-Based Measurement and Balancing of Four-Axle Passenger Railcars

Desislava Yosifova (Todor Kableshkov University of Transport - Sofia)

I09 Blood Flow Parameters as Predictive Indicators for Sudden Blood Pressure Changes

Nikolay Kadiev (Technical University of Sofia)

I11 Wearable and Multimodal Systems for Early Warning and Tracking of Epileptic Seizures, a Systematic Review

Elena Nikolova (Technical University of Sofia)

I12 Elimination of Phase Ambiguity in Software-Defined Vehicular Radio Communications Using Differentially Encoded 8-PSK Modulation

Radu Gabriel Bozomitu ("Gheorghe Asachi" Technical University of Iasi)

I13 HighPower Arduino Nano Extension Board with Modular H Bridge Control for Educational Applications

Dragos Draghiciu (Technical University of Cluj-Napoca)

I14 A Cross-Method Accuracy Comparison of AI Enhanced Agricultural Systems

Vlad Baciu (Politehnica University Timisoara)

I29 A Hybrid Learning Module in Power Electronics within Dual Higher Education

Emanuel Vesa ("1 Decembrie 1918" University of Alba Iulia)

I30 Thermally Coupled Disk Thermistors under Square-wave DC Excitation

Milan Bodic (University of Novi Sad)

I42 Thick Film Thermistors for Measuring Air and Ground Temperature Profiles

Mirjana Damnjanovic (University of Novi Sad)

I56 Design of a Low-Input-Voltage Self-Oscillating DC-DC Boost Converter Intended to Process the Electrical Energy from Tandem Solar Cells

Ivailo Pandiev (Technical University of Sofia)

I64 Analysis of Noise Components in High-Precision Temperature Sensors

Borislav Ganev (Technical University of Sofia)

I68 Design and Modelling of Compact Multilayer NFC Antenna Assemblies in LTCC and PCB Toward Embedded SiP Modules

Igor Vehec (Technical University of Kosice)

I69 Efficient RGB-LiDAR Fusion for Autonomous Driving under Real-Time Constraints

Stefan Rizanov (Technical University of Sofia)

I74 Parametric Analysis of Reconfigurable Field-Effect Transistor

Ivelina Ruskova (Technical University of Sofia)

13:00 Lunch

Location: Hotel Imperial Plovdiv, Restaurant Kristal

14:00 Oral session V chaired by: H. Wohlrabe and D. Busek

Location: Hotel Imperial Plovdiv, Conf. Room Panorama, Floor 9

D20 Quantitative Microstructure Characterisation for Reliability Assessment of BGA Solder Interconnects Using Machine Learning

Muhammad Umair Najeem (University of Greenwich)

D50 Residual Stress Availability and Locking in DE104 Prepreg Laminates: A DMA Tensile Stress Relaxation Study

Tomas Lenger (Technical University of Kosice)

D91 Cyclic Fatigue Testing as a Reliability Assessment Method for HDI Microvias

Moritz Hartleb (TU Wien)

15:00 Break

17:00 Walk in the Old Town of Plovdiv With Tour Guide

19:00 Dinner

Location: Restaurant Jägerhof

22:00 Bus Trip Back to Hotel Imperial Plovdiv

Saturday, 16th of May

09:00	Poster session IV chaired by: E. Gieva and B. Illes	Location: Hotel Imperial Plovdiv, Conf. Room Panorama, Floor 9
E19	Switching-Mode Power Supply Circuit for Telecommunications Applications Tihomir Brusev (Technical University of Sofia)	
E21	Automated Active Cell Balancing for Lithium-Ion Batteries Ana Maria Nica (Technical University of Cluj-Napoca)	
E27	Early Ion Transport and Voltage-Dependent Dendrite Formation in Sn-9Zn ECM: A Comparative Numerical Study Balint Medgyes (Budapest University of Technology and Economics)	
E32	Current Density Modelling of Electromigration Test Vehicles (0402 and 0201) Based on Realistic Solder Joint Geometries Zoltan Tafferner (Budapest University of Technology and Economics)	
E43	Adaptive Fractal Supervision of PI Control in Boost DC-DC Converters Reni Kabakchieva (Technical University of Sofia)	
E44	Large Language Models for Power Electronics Education: Retrieval-Augmented Tutoring with Automatic Verification and Simulation Reni Kabakchieva (Technical University of Sofia)	
E46	Multi-Bus State-Space Modeling and Resonance Identification in SEPIC DC-DC Converter Systems Reni Kabakchieva (Technical University of Sofia)	
E47	Mathematical Modeling of Nonlinear Magnetic Components Based on Neural Networks Reni Kabakchieva (Technical University of Sofia)	
E58	Impact of Layout Parasitics on a Multi-Branch Current Source Petru-Alexandru Stefanescu (National University of Science and Technology Politehnica Bucharest)	
E70	Effect of Recalescence on Nucleation Probability at Different Cooling Rates in SAC305 Solder Istvan Bozsoki (Budapest University of Technology and Economics)	
E80	Comparative Analysis of Battery Management System Based on Switching Capacitors Dimitar Arnaudov (Technical University of Sofia)	
E83	Modeling of PEM Fuel Cell System for Stationary Applications Dimitar Arnaudov (Technical University of Sofia)	
E84	Synthesizable Floating-Point ADC Modeling for In-FPGA Prototyping Elisei Ilies (Politehnica University Timisoara)	
E86	Comparison of Power-Efficient D Latches with AVL Technique in CMOS Technology Mirjana Damnjanovic (University of Novi Sad)	
E89	Finite Element Simulation of Stress Relaxation in Fe- and Co- Nanoparticle Doped Sn-3.5Ag Solder Joints Martin Lederer (TU Wien)	
11:00	Coffee break	Location: Hotel Imperial Plovdiv, Floor 9
11:15	Poster session V chaired by: N. Nenov and P. Lukacs	Location: Hotel Imperial Plovdiv, Conf. Room Panorama, Floor 9
A41	Dielectric Properties of BaFe₁₂O₁₉/PVDF Composite in the Low Frequency Region Milica Kusic (University of Novi Sad)	
A65	Optimizing the RDS(on) of a 650V Planar 4H-SiC MOSFET in TCAD Vladimir Garistov (Technical University of Sofia)	
A75	Comparing Vapour Phase and Forced Convection Reflow for Low-temperature SnBi Soldering Oliver Krammer (Budapest University of Technology and Economics)	

A77	Influence of Carbon Nanotube Addition on Electrical and Thermal Properties of Conductive Die-Attach Adhesives Pavel Kopriva (Brno University of Technology)	
A88	Effect of Low-Temperature Sintering on the Microstructure and Dielectric Response of Zinc-Ferrite Based Sensors for Agriculture Milica Kistic (University of Novi Sad)	
B67	Numerical Modelling of the Heat Distribution in Planar Thermocouples Piotr Markowski (Wrocław University of Science and Technology)	
J40	A Quality and Reliability Training Course for Automotive Electronics in the TRIREME Project Balint Medgyes (Budapest University of Technology and Economics)	
J48	An Educational Framework for the Analysis of Digitally Controlled Analog Filters Using Simulation and Hardware Validation Vlad Veliciu (Technical University of Cluj-Napoca)	
J63	Integrated Design-to-Fabrication Pedagogical Approach for Micro and Nanosensor Systems in Electronics Engineering Education Elitsa Gieva (Technical University of Sofia)	
J90	Design and Implementation of a 3D-Printed Modular Electronics Kit for Educational Applications Madalin Moise (Politehnica University of Bucharest)	
13:00	Lunch	Location: Hotel Imperial Plovdiv, Restaurant Kristal
14:00	Oral session VI chaired by: N. Nenov and E. Gieva	Location: Hotel Imperial Plovdiv, Conf. Room Panorama, Floor 9
J31	Large Language Model-Based Approaches in Electronic Design: A Brief Review Zoltan Tafferer (Budapest University of Technology and Economics)	
E38	Electrical Modelling of Silicon/Perovskite Tandem Solar Cells With Two Single Diode Solar Cell Models Connected Into Series Andras Balint Meszaros (Budapest University of Technology and Economics)	
14:45	Closing Ceremony – Invitation to ISSE 2027	Location: Hotel Imperial Plovdiv, Conf. Room Panorama, Floor 9
15:00	Break	
16:00	Walk in the City Center of Plovdiv - Tasting of Beer	Location: Pivovarnitza Frik&s
18:00	Steering Committee Meeting	Location: Hotel Imperial Plovdiv
19:00	Gala Dinner + Awarding Ceremony	Location: Hotel Imperial Plovdiv
Sunday, 17th of May		
09:00	Farewell; End of Conference	