



39th International Spring Seminar on Electronics Technology

Conference Program

Wednesday, 18th of May

19:00 Welcome Reception

Thursday, 19th of May

08:30 Opening session of ISSE2016

08:45 Oral session I Chaired by: T. Blecha, H. Wohlrabe

KN1 3D Printed Electronics – Current Status and Applications
M. Hedges, Neotech AMT GmbH

KN2 Flexprint - The Czech Key to The World of The Printed Electronics
T. Syrový, L. Kubac, A. Hamacek, J. Pflieger, J. Stejskal, J. Bourek
University of Pardubice

A02 A Comparison of embroidered and woven textile electrodes for continuous measurement of ECG
T. Bystrický, R. Soukup, D. Moravcová, P. Kaspar, University of West Bohemia

A07 Mechatronic Integrated Devices Produced by Laser Direct Structuring on Powder-Coated Aluminum Substrates

T. Kuhn, A. Kruegelstein, J. Franke, Institute for Factory Automation and Production Systems (FAPS), Nuremberg

A10 Feasibility Study of generating Mechatronic Devices by Digital Direct Metallization with a Plasma based Copper Coating Process

M. Mueller, J. Franke, Institute for Factory Automation and Production Systems (FAPS), Nuremberg

B09 Thermal Joints Based On Sintered Silver Micro- and Nano- Sized Particles

K. Stojek, T. Fałat, J. Felba, P. Matkowski, W. Macherzński, A. Macherzński, Wrocław University of Technology

10:45 Coffee break

11:00 Oral session II Chaired by: A. Dziedzic, J. Nicolics

KN3 Wearables that Work: Getting it Right the First Time
C. Hillman, DfR Solutions

A16 Highly Flexible and Biocompatible Interposer for Medical Applications

K. Pitschmann, D. Wagner, S. Brinkhues, B. Schmidt, M. Detert, Otto-von-Guericke-University (OvGU), Magdeburg

A12 DSC Investigation of the Undercooling of SnAgCu Solder Alloys

M. Mueller, A. Türke, I. Panchenko, Electronics Packaging Laboratory (IAVT) - TU Dresden

C01 High temperature vapor phase conformal coating for improving reliability of harsh environment electronics

R. Kumar, Specialty Coating Systems

C04 Ceramic Substrate Technology for Wafer Level Packaging of MEMS

S. Ziesche, M. Ihle, F. Gabler, F. Roscher, Fraunhofer IKTS, Dresden

12:45 Lunch

13:45	Oral session III Chaired by: A. Pietrikova, D. Pitica
KN4	Printed Energy Autonomous Wearable and Disposable Smart Systems D. Briand, Ecole Polytechnique Fédérale de Lausanne (EPFL)
C06	Aerosol Jet® SMD Component Bonding J. Navratil, J. Reboun, T. Rericha, R. Soukup, University of West Bohemia in Pilsen (UWB)
C10	Consideration of inhomogeneous shrinkages for LTCC-applications in panel-level processes C. Lenz, S. Kappert, S. Ziesche, H. Neubert, U. Partsch, Fraunhofer Institute for Ceramic Technologies and Systems (Fh IKTS), Dresden
C11	Technological Study to Obtain Thick Conductors for Power Electronics by Screen and Stencil Printing B. Müller, J. Müller, Department of Electrical Engineering and Information Technology, Ilmenau University of Technology
E10	Mathematical Methods for Analyzing and Optimizing Production Lines and Supply Chains in Semiconductor Industry G. Nieke, D. Doleschal, G. Weigert, TU Dresden
15:30	Coffee break
15:45	Poster session I Chaired by: O. Krammer, E. Ceuca
A01	Screen Printed Conductive Pastes for Biomedical Electronics H. Berg, M. Schubert, S. Friedrich, K. Bock, Technische Universität Dresden, Electronics Packaging Laboratory
A04	Influence of the Heat Generated in Flexible OLEDs on Their Electrical Behavior A. Stoyanova, M. Aleksandrova, G. Dobrikov, Department of Microelectronics, Technical University of Sofia, Sofia, Bulgaria
A05	High resolution patterns on LTCC substrates for microwave applications obtained by screen printing and laser ablation B. Synkiewicz, J. Kulawik, A. Skwarek, Y. Yashchysyn, P. Piasecki, Institute of Electron Technology, Krakow
A06	Adhesion Improvement of Thick Printed Copper Film on Alumina Substrates by Controlling of Oxygen Level in Furnace J. Hlina, K. Hromadka, J. Řeboun, University of West Bohemia
A08	Influence of Manufacturing Processes on RF Planar Passive Components Electrical Parameters A. Shlykevich, T. Blecha, University of West Bohemia
A09	Towards producing commercial electronics on biodegradable PCB substrates A. Geczy, L. Gál, B. Kovács, I. Hajdu, Budapest University of Technology And Economics, Dept of Electronics Technology
A11	Innovative Method for Through Holes Plating A. Otáhal, V. Šimek, A. Crha, R. Růžička, I. Szendiuch, Brno University of Technology
A13	Low-voltage electrochemical transistor based on ionic liquid-gated PEDOT:PSS with copper electrodes S. Pretl, L. Mracek, J. Navratil, T. Rericha, A. Hamacek, University of West Bohemia
A14	Designing of Infrared Heater with Homogenous Heat Transfer J. Skácel, A. Otáhal, I. Szendiuch, Brno University of Technology
A15	Comparison of Solid and Liquid Electrolytes for Organic Electrochemical Transistor L. Mracek, T. Syrovy, S. Pretl, S. Nespurek, A. Hamacek, University of West Bohemia
A17	Investigation of Wiring Boards Based on Biopolymer Substrates A. Staat, R. Mende, R. Schumann, K. Harre, R. Bauer, University of Applied Sciences Dresden
A18	Integrating of additional functionalities in robot complex for assembling V. Tsenev, "UniPOS" Ltd.
A19	Ion Beam Sputtering of Silver on Textile Fibres in Vacuum H. Hadjiev, I. Rahnev, P. Philipov, Technical university of Sofia, IPF-Sliven
A20	Influence of thermal Treatment on electrical properties of transparent TiO₂:Nb thin films E. Prociów, A. Dziedzic, Wrocław University of Technology
17:15	Coffee break
17:45	Poster session II Chaired by: I. Lita, I. Szendiuch
B03	Thermal Management of System-on-Chip Devices Used in Satellite Systems under Low Temperature Conditions A. Ilies, R. Jánó, G. Chindris, Asociatia "Chapter Bucuresti"
B04	Thermal Performance of Novel Diode Packages M. Unger, J. Nicolics, H. Stahr, M. Morianz, F. Dousseul Institute of Sensor and Actuator Systems, TU Wien

B07	The comparison of heat transfer through the smart textile firefighter suit L. Kupka, J. Kalčík, R. Soukup, M. Švantner, P. Honnerová, University of West Bohemia
B08	Thermal Investigation of a Planar Core Power Transformer C. Ropoteanu, Center of Technol. Electron.& Interconnection Techniques, Politehnica Univ. of Bucharest
B11	Modeling, simulation and analysis of temperature distribution in a heat sink M. Gierczak, P. Markowski, A. Dziedzic, Wrocław University of Technology
C02	Influence of Electrically Conductive Adhesive Quantity on Insulation Distance and Shear Strength of Glued Joints M. Hirman, F. Steiner, University of West Bohemia
C03	Die attach by diffusion Sn-Ag-Sn soldering in high temperature electronics applications M. Myśliwiec, R. Kisiel, T. Fałat, Institute of Micro- and Optoelectronics, Warsaw University of Technology
C05	Optimising Ring Oscillators based True Random Number Generators concept on FPGA A. Marghescu, P. Svasta, UPB-CETTI, Bucharest
C07	Hidden solder joints inspection used in surface-mount technology A. Stoyanova, N. Georgiev, A. Erinin, B. Bonev, Department of Microelectronics, Technical University of Sofia, Sofia, Bulgaria
C08	Influence of geometry on the applied solder paste in technology Pin in Paste (PiP) V. Tsenev, V. Videkov, A. Stratev, M. Mitov, A. Bankova, V. Bankova, "UniPOS" Ltd.
H01	Electromagnetic Compatibility Analysis of the Assembly e-bike - Power Electronic Converter with Recovery Function E. Ceuca, I. Pocan, O. Pop 1 DECEMBRIE 1918 Alba Iulia
19:30	Dinner at Parkhotel

Friday, 20th of May

08:30	Oral session IV Chaired by: P. Svasta, P. Mach
KN5	Smart Firefighter Protective Suit R. Soukup, P. Kaspar, T. Blecha, University of West Bohemia
KN6	Smart Textiles – Applications and Eco Systems M. Strecker, Teiimo GmbH
D01	Tin Whisker Growth from Tin Thin Film B. Illés, A. Skwarek, O. Krammer, B. Medgyes, B. Horváth, Budapest University of Technology and Economics
D02	Characterization Methods for Metallic Wires in Electronic Packages M. Lederer, G. Khatibi, A. Mazloum-Nejadari, Vienna University of Technology
D05	Vulnerability Study of Hot Solder Dipped COTS Components S. Stoyanov, C. Bailey, University of Greenwich
10:15	Coffee break
10:30	Poster session III Chaired by: A. Andonova, R. Bauer
D03	Bending Endurance of Printed Conductive Patterns on Flexible Substrates J. Reboun, S. Pretl, J. Navratil, J. Hlina, University of West Bohemia
D04	Influence of Accelerating Ageing on LTCC and PCB Substrates' Dielectric Properties in GHz Area T. Rovensky, A. Pietrikova, O. Kovac, I. Vehec, Technical University of Kosice
D06	Image processing of X-ray images for automatic void detection and evaluation T. Girasek, O. Kovac, A. Pietrikova, Department of Technologies in Electronics, Faculty of Electrical Engineering and Informatics, Technical University of Kosice
D07	The Effect of Cooling Rate on the Thermo-mechanical Properties of Micro-alloyed Solders O. Krammer, T. Garami, Á. Nagy, Budapest University of Technology and Economics - Department of Electronics Technology
D08	Experimental study of the influence of the temperature profile on the BGA soldering K. Dušek, P. Veselý, M. Šimek, CTU in Prague
D09	Influence of latent heat on the shape of temperature profile for different types of solder alloys K. Dušek, M. Plaček, D. Busek, A. Rudajevová, CTU in Prague
D10	Qualification processes during flux and solder paste evaluation K. Dušek, J. Umlauf, CTU in Prague
D11	Temperature distribution during the phase change in the volume of the solder alloy M. Plaček, K. Dušek, C. Stancu, FEE CTU in Prague, Department of Electrotechnology
D12	Simulation Based Optimization of a SMD-Assembling Process H. Wohlrabe, H. Fritzsche, S. Lungen, TU Dresden

D14	Electrochemical migration of Cu and Sn in Na₂SO₄ environment B. Medgyes, P. Szabó, P. Tamási, L. Gál, G. Harsányi, Budapest University of Technology and Economics, Department of Electronics Technology
D15	Experimental Methodology for Low Temperature Vibration Investigations on Electronic Modules T. Tiedje, TU Dresden, Institut für Aufbau- und Verbindungstechnik der Elektronik
D16	Behavior of Conductive Adhesive Joints under Combined Load P. Mach, A. Duraj, CTU Prague, Faculty of Electrical Engineering
D17	Morphological and Composition Study on Lead-Free Micro-Alloyed Solders after Corrosion Test P. Tamási, B. Medgyes, L. Gál, Budapest University of Technology and Economics, Department of Electronics Technology
D18	The mechanical strength of solder joints on PCB with OSP surface protection V. Novotný, M. Adámek, J. Šandera, R. Vala, Brno University of Technology
D19	The voltage response of Lead-acid battery through pulses charging with variable frequency and duty cycle L. Szabó, Technical University of Cluj-Napoca, Romania
D22	Predictive Modelling for 3D Inkjet Printing Processes G. Tourloukis, S. Stoyanov, T. Tilford, C. Bailey, University of Greenwich
D23	Whisker growth and its dependence on substrate type and applied stress D. Busek, J. Vávra, K. Dušek, CTU in Prague
D24	Substrate influence on temperature distribution along the PCB during vapour phase soldering D. Busek, A. Geczy, L. Fazekas, CTU in Prague
D25	Data Driven Prognostics for Predicting Remaining Useful Life of IGBT M. Ahsan, S. Stoyanov, C. Bailey, University of Greenwich
D26	Prognostics of Automotive Electronics with Data-Driven Approach: A Review M. Ahsan, S. Stoyanov, C. Bailey, University of Greenwich
D28	Employing Model Based Failure Mode and Effect Analysis for Sputtering Process M. Molhanec, I. Beshajová-Pelikánová, Czech Technical University in Prague
12:30	Lunch
13:30	Oral session V Chaired by: R. Kiesiel, S. Stoyanov
KN7	Light-treated Substrates for Oriented Thin Films S. Nespurek, A. Hamacek, T. Syrovy, University of West Bohemia
G03	Analysis of electronic properties of pseudobrookite thick films with possible application for gas sensors G. Miskovic, Technische Universität Wien
K01	Printed 3-D Stacked Chipless RFID Tag with Spectral and Polarization Encoding Capacity S. Preradovic, A. Menicanin, Institute for Multidisciplinary Research University of Belgrade
15:15	City Tour Departure
16:00	City Tour / Pilsner Urquell Tour
19:00	Group Photography
19:15	Dinner at Pilsner stylish restaurant
22:00	Parkhotel Departure

Saturday, 21st of May

09:00	Poster session IV Chaired by: N. Blaz, J. Felba
E01	Optimal Scheduling of an Islanded Microgrid Based on Minimum Cost E Lazar, D. Petreus, R. Etz and T. Patarau, Technical University of Cluj-Napoca
E02	Small Signal Induction Generator Model Connected in a Frequency-Droop Controlled Renewable Energy Microgrid T. Patarau, D. Petreus, R. Etz, E. Lazar, Technical University of Cluj Napoca
E03	Developing an automated system for simultaneous recording of the human physiological parameters C. Dumitrescu, I. Costea, M. Minea, A. Banica, University Politehnica of Bucharest
E04	Analysis of facial expressions using thermal imaging I. Costea, C. Dumitrescu, M. Minea, A. Banica, University Politehnica of Bucharest
E05	Hydrogen Bonding Networks in Transient state of beta-lactamase protein Analogous to Integrated Circuits E. Gieva, Technical University of Sofia, R&D

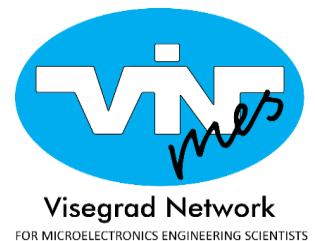
E06	Implementation of a Car Model for Indirect Tire Pressure Monitoring System A. Miclăuș, R. Jánó, G. Chindris, Asociația "Chapter București"
E07	Photovoltaic Panel Model Using Matlab A. Grama, M. Dan, E. Lazar, Technical University of Cluj-Napoca
E08	Influence of switching frequency on active and reactive load power of resonant converters O. Pop, A. Taut, R. Fizesan, E. Ceuca, Technical University of Cluj-Napoca/Romania
E09	Modelling and Simulation of a Ballistic Breaker used in HVDC Circuit Breaking Applications R. Dobre, I. Oles, D. Pavelescu, C. Negrescu, D. Stanomir, Politehnica University of Bucharest
E11	Fast time series forecast by time series basic tools and simple neural networks L. Kupka, P. Netolický, O. Tůmová, University of West Bohemia
E12	Connection Technologies Quality Improving A. Benešová, J. Šimota, M. Hirman, J. Navratil, J. Tupa, F. Steiner, University of West Bohemia
E13	Temperature and Power Consumption for Tungsten Coil in the Drying Process for Liquid Sample S. Cadar, D. Petreus, R. Etz, T. Frentiu, E. Butaciu, INCDO-INOE2000, Research Institute for Analytical Instrumentation, Cluj-Napoca, Romania
E14	Reconfigurable Signal Generator and Simulator for Testing the Digital Transmission Circuits D. Visan, A. Lita, S. Oprea, I. Cioc, University Pitetsti
E15	Simulation of Signals in Digital Television Using LabVIEW I. Cioc, S. Oprea, D. Visan, I. Lita, University Pitetsti
E16	Parameterized SPICE models of carbon nanotube interconnects E. Gadjeva, Technical University of Sofia
E17	Laser Based Direct Structuring R. Berenyi, M. Ruzsinko, I. Szekely, Budapest University of Technology and Economics
E18	DRAM Design Based on Carbon Nanotube Field Effect Transistors M. Spasova, G. Angelov, B. Dobrichkov, E. Gadjeva, M. Hristov Technical University of Sofia
F01	Loss Factor of Alumina and AlN Thin Films Created by Reactive Magnetron Sputtering P. Mach, J. Kolarova, CTU Prague, Faculty of Electrical Engineering
10:45	Coffee break
11:00	Poster session V Chaired by: N. Cordreanu; B. Tsyganok
I01	Dynamic Stress Reduction and Service Life Extension of Electronic Assemblies M. Hartung, Hochschule Nordhausen, University of applied Sciences
I02	Accelerometer-magnetometer static rotation frame on earth J. Justa, A. Hamacek, University of West Bohemia
I03	Development of Planar Inductive Sensor for Proximity Sensing Based on LTCC S. Zuk, A. Pietrikova, I. Vehec, Technical University of Kosice
I04	Sensors and Microsystems of Wayside Monitoring System for Rolling Stock in Motion N. Nenov, E. Dimitrov, N. Dodev, V. Vasilev, VTU T. Kableshev Sofia
I05	Environmental Noise Logging, Calculating and Mapping M. Marinov, G. Nikolov, E. Gieva, B. Ganev, Technical University of Sofia, R&D
I06	System for maintaining the dispense capillary at a constant height above the surface M. Řezníček, A. Otáhal, M. Buršík, J. Jankovský, Brno University of Technology
I07	Inductive Passive Tangential Displacement Sensor M. Kisic, N. Blaz, K. Babkovic, L. Zivanov, M. Damjanovic, University of Novi Sad, Faculty of Technical Sciences
I08	Pupil Eye Detection by Using the Least Squares Technique R. Bozomitu, A. Pasarica, V. Cehan, C. Rotariu, E. Coca, Telecommunications Department, Faculty of Electronics, Telecommunications and Information Technology, "Gheorghe Asachi" Technical University of Iasi
I09	Air Quality Monitoring in Urban Environments M. Marinov, I. Topalov, E. Gieva, G. Nikolov, Technical University of Sofia, R&D
I10	Gas sensing properties of carbon nanomaterials A. Bannov, J. Prášek, O. Jašek, A. Shibaev, L. Zajíčková, Brno University of Technology
I11	Monitoring Device of Resin Curing Process J. Freisleben, J. Cengery, J. Pihera, R. Vik, A. Hamacek, R. Pavlica, J. Komarek, University of West Bohemia
I12	Real time system for instrumental sound extraction and recognition A. Lita, L. Ionescu, A. Mazare, G. Serban, I. Lita, University Pitesti
I13	Electro-hydraulic linear actuator M. Blejan, I. Ilie, R. Radoi, C. Cristescu, INOE 2000 – IHP Bucarest
I14	GSM Based Remote Control for Distributed Systems D. Visan, I. Cioc, S. Oprea, A. Lita, University Pitesti
I15	Sensors based on longitudinal fiber Bragg gratings J. Somer, F. Urban, F. Urban, I. Szendiuch, Brno University of Technology

12:30	Lunch
13:30	Poster session VI Chaired by: C. Ionescu, B. Illes
G02	The Impact of Surface Properties of Polymeric Substrates on the Nano-Inks Behavior P. Lukacs, A. Pietrikova, O. Kovac, Department of Technologies in Electronics, Faculty of Electrical Engineering and Informatics, Technical University of Kosice
G05	Ink-Jet Printed Conductive Films – Geometrical and Electrical Characterization M. Gierczak, P. Markowski, Z. Żaluk, A. Dziedzic, P. Jankowski-Miśkiewicz, Wrocław University of Technology
J01	Simulation and Educational Tool for Fault Modelling in Logic Circuits R. Jánó, A. Fodor, A. Ilies, Asociatia "Chapter Bucuresti"
J03	MicroElectronics Cloud Alliance (MECA) – Presentation of a New Erasmus+ Project Z. Illyefalvi-Vitez, O. Krammer, S. Tzanova, Lightware Visual Engineering (Lightware Vetítéstechnikai Kft.), Budapest
J04	Remote Measurements in Educational Laboratories Using LabVIEW and DAQ Cards I. Cioc, S. Oprea, D. Visan, I. Lita, University
J05	Measurement of Capacitive Sensor with Arduino M. Varga, M. Romakov, M. Damnjanovic, N. Blaz, Faculty of Technical Sciences, University of Novi Sad
J06	Learning Factories for Open Schooling and Collaboration on Science Education P. Svasta, Z. Illyefalvi-Vitez, Center for Technological Electronics and Interconnection Techniques, "Politehnica" University of Bucharest (UPB-CETTI)
K02	Capacitance Variation of Inkjet Printed Interdigital Capacitor by Structure Bending N. Blaz, M. Kisic, Č. Žlebič, A. Maric, L. Živanov, Faculty of Technical Sciences, University of Novi Sad
K03	Influence of Substrate Thickness on Performance of LTCC Micro-Transformer A. Maric, G. Radosavljevic, N. Blaz, L. Zivanov, University of Novi Sad, Faculty of Technical Sciences, Department of Electronics
K04	Design and Modelling of Two-layer Inductors on PCB Substrate B. Šašić, M. Damnjanovic, L. Živanov, Č. Žlebič, N. Blaz, Faculty of Technical Sciences, Novi Sad
K05	Investigations on Balancing Circuits for Supercapacitor Modules C. Ionescu, A. Vasile, University "Politehnica" of Bucharest, Romania, Center for Technological Electronics and, Interconnection Techniques, UPB-CETTI
K06	Behavioral Dimensional SPICE Models of Thick-Films Resistors at Cryogenic Temperatures F. Balik, A. Dziedzic, Wrocław University of Technology
15:30	Techmania Departure
16:00	Techmania Tour
18:30	Techmania Departure
19:30	Gala Dinner at Parkhotel

Sunday, 22nd of May

09:00	Farewell; End of conference
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ISSE 2016 Sponsors and Exhibitors



ISSE 2016 Time Schedule

18 th of May Wednesday	19 th of May Thursday	20 th of May Friday	21 st of May Saturday	22 nd of May Sunday
	Breakfast 7:30-8:30	Breakfast 7:30-8:30	Breakfast 7:30-9:00	Breakfast 7:30-9:00
	Opening Speech 8:30-8:45	Oral Session IV 8:30-10:15	Poster Session IV 9:00-10:45	Departure 9:00-12:00
	Oral Session I 8:45-10:45	Coffee Break 10:15-10:30	Coffee Break 10:45-11:00	
	Coffee Break 10:45-11:00	Poster Session III 10:30-12:30	Poster Session V 11:00-12:30	
	Oral Session II 11:00-12:45	Lunch 12:30-13:30	Lunch 12:30-13:45	
	Lunch 12:45-13:45	Oral Session V 13:30-14:45	Poster Session VI 13:30-15:00	
	Oral Session III 13:45-15:30			
	Coffee Break 15:30-15:45	City Tour Departure 15:15-15:45	Techmania Departure 15:30-16:00	
Arrival, Registration, Accommodation 14:45-19:00	Poster Session I 15:45-17:15	City Tour/ Pilsner Urquell Tour 15:45-19:00	Techmania Tour 16:00-18:30	
	Coffee Break 17:15-17:45		Parkhotel Departure 18:30-19:00	
	Poster Session II 17:45-19:00	Group Photography 19:00 - 19:15		
Welcome Reception (Parkhotel) 19:00-22:00	Dinner (Parkhotel) 19:30-22:00	Dinner at Pilsner stylish restaurant (Pilsner Urquell Brewery) 19:15-22:00	Gala Dinner (Parkhotel) 19:30-23:00	
		Parkhotel Departure 22:00-22:30		

ISSE steering committee meeting

Wednesday: 21:00
 Thursday: 21:00 (Optional)
 Saturday: 18:00

VINmes project meeting

Saturday: 17:00