Programme in detail

Thursday, October 27

09:00 – 09:15 **Opening ceremony SIITME 2022, Welcome words**
EEST | GMT +3h

Ciprian IONESCU, *University Politehnica of Bucharest, Romania*
Ovidiu Aurel POP, *Technical University of Cluj-Napoca, Romania*

Thursday, October 27

09:15 – 11:15 **Plenary Oral Session 1**
EEST | GMT +3h

Session Chair: Ovidiu Aurel POP, Technical University of Cluj-Napoca, Romania
Session Co-Chair: Ciprian IONESCU, University Politehnica of Bucharest, Romania

09:15 KN1.1 Measurements for Micro-Nano-Electronics
Marius ENACHESCU, University Politehnica of Bucharest, Romania

09:55 Laser Cleaning of Flux Residues on Copper Surfaces in Electronics Production
Christoph Hecht, Jan-Niklas Slama, Felix Häußler, Mario Sprenger and Jörg Franke
Friedrich-Alexander-Universität Erlange-Nürnberg, Institute for Factory Automation and Production Systems, Nürnberg, Germany

10:20 Solutions for Acoustic Noise caused by Multilayer Ceramic Capacitors
Corina Covaci, Florin Burza[1)], and Aurel Gontean[2)]
Applied Electronics Department, Politehnica University, Timisoara, Romania
1) A HEAT LM TSR UX AE CS AD, Continental Automotive, Timisoara, Romania
2) Applied Electronics Department, Politehnica University, Timisoara, Romania

10:45 Printed Circuit Board Assembly Modeling for Predictive Reliability Assessment
Iulia Eliza Tinca[1)3)], Iulian – Ionuț Ailinei[2)4)], and Arjana Davidescu[1)]
1)Dept. of Mechatronics, University Politehnica Timișoara, Romania
2) Dept. of Mechanics and Strength of Materials, University Politehnica Timișoara, Romania
3) Autonomous Mobility, Continental Automotive Romania, Timișoara, Romania
4) Qualification Laboratories, Continental Automotive Romania, Timișoara, Romania

Thursday, October 27

11:45 – 12:15 Industry Engagement with IEEE R8 – AFI Intro

EEST | GMT +3h

Session Chair: John Baptist MATOGO, AFI, IBM
Session Co-Chair: Marian VLĂDESCU, University Politehnica of Bucharest, Romania

Thursday, October 27

13:30 – 14:00 Industrial Session 1

EEST | GMT +3h

Session Chair: Daniel COMEAGĂ, University Politehnica of Bucharest, Romania
Session Co-Chair: Bogdan MIHĂILESCU, University Politehnica of Bucharest, Romania

Continental Automotive **RomTek Electronics** **Robert Bosch SRL**

Thursday, October 27

14:00 - 15:30 Poster Session 1 (Start with a pitching session*)

EEST | GMT +3h ***Each author must deliver a maximum 1-minute video presentation of her/his work.***

Session Chair: Mihai BRANZEI, University Politehnica of Bucharest, Romania
Session Co-Chair: Daniel Vișan, University of Pitești, Romania

P1.1 Microsystem for measuring audio PCB vibrations
C. Bărbulescu, M. Marinca, and E. Ilieș
Applied Electronics Department, Politehnica University, Timisoara, Romania

P1.2 IR Drop Simulation for an Automotive Device
Catalin Pescari[1)], Andrei-Marius Silaghi[1)], Aldo De Sabata[1)] and Ciprian Bleoju[2)]
1)Department of Measurements and Optical Electronics, University Politehnica Timisoara, Timisoara, Romania
2)Department of Mechanics and Material Strength, University Politehnica Timisoara, Romania

P1.3 Study Regarding the Configuration Setup used inside an EMC Laboratory for NFC Communication Measurement
Teodor-Octavian Pacurar[1)], Andrei-Marius Silaghi[1)], Catalin Balan[1)], Aldo De Sabata[1)], and Cornel Balint[2)]
1)Department of Measurements and Optical Electronics, University Politehnica Timisoara, Timisoara, Romania
2)Department of Communications, University Politehnica Timisoara, Timisoara, Romania

P1.4 Measurement of some properties for material qualification in solderless assembly for electronics

Florin Baciu[1)], Mihai Branzei[2)], Bogdan Mihailescu[3)], and Gaudentiu Varzaru[4)]
1) Material Strength Department, Politehnica University, Bucharest, Romania
2) Center of Expertise for Special Materials, Politehnica University, Bucharest, Romania
3) Center for Electronic Technology and Interconnection Techniques, Politehnica University, Bucharest, Romania
4) Syswin Solutions SRL, Bucharest, Romania

P1.5 Gesture Interaction with 3D Printed Hybrid Compression and Inertial Tracking Device Based on Plastic Embedded Antenna for Virtual Reality Integration

Claudiu Bratu, Mircea-Alexandru I Călin, Paul Svasta
Center for Technological Electronics and Interconnection Techniques, University Politehnica of Bucharest, Romania

P1.6 Study of Dye-Sensitized Solar Roof Tile under Partial Shading Conditions

Szilard Bularka, Elisei Ilies, Magdalena Marinca, Radu Ricman, Melinda Vajda[1)], Daiana Albulescu[2)]
Applied Electronics Department, Politehnica University Timisoara, Romania,
1)Applied Chemistry and Engineering of Inorganic Compounds and Environment Department, Politehnica University, Timisoara, Romania,
2)Organic and Natural Compounds Engineering Department, Politehnica University, Timisoara, Romania,

P1.7 Portable Device which Transmits Fusioned Data from Several Sensors for Monitoring a Person's Activity

Marius Mareș, Alexandru Vasile, and Paul Svasta
Politehnica University of Bucharest, Bucharest, Romania

P1.8 Contrast Enhancing by Applying Histogram Analysis in Image Processing

Teodora I. Petrova and Zhivo B. Petrov[1)]
Agricultural Engineering, Trakia University, Stara Zagora, Bulgaria
1)Defence Advanced Research Institute, Rakovski National Defence College, Sofia, Bulgaria

P1.9 Colour detector for visual impaired users

Radu Papara, Ilas Crina, Galatus Ramona and Loredana Buzura
Technical University of Cluj-Napoca, Memorandumului 28th, Cluj-Napoca, Romania

P1.10 Conceptual Model of a System for Controlling the Process of Egg-Hatching in Incubators

Boris I Evstatiev, Nadezhda Evstatieva
Department of Electronics, University of Ruse Angel Kanchev, Ruse, Bulgaria

P1.11 IoT-Based Electronic System for Control of Foundry Furnace

Snezhinka L. Zaharieva[1)], and Martin N. Stoyanov [2)]
1) Department of Electronics, University of Ruse Angel Kanchev, Ruse, Bulgaria,
2) Department of Electronics, University of Ruse Angel Kanchev, Ruse, Bulga

P1.12 A Robust Radiocommunication System for FM Transmission Based on Software Defined Radio Technology

Radu Gabriel Bozomitu, Stefan Corneliu Stoica
Faculty of Electronics, Telecommunications and Information Technology, Gheorghe Asachi Technical University, Iaşi, Romania

P1.13 Design of Electronic System for Control of Parameters in an Incubator

Seher Y. Kadirova, Stiliyan V. Okishelov[1)] and Zhivko D. Kolev[2)]
Department of Electronics, University of Ruse Angel Kanchev, Bulgaria
1)Department of Electronics, University of Ruse Angel Kanchev, Bulgaria
2) Department of Heat, Hydraulics and Environmental Engineering, University of Ruse Angel Kanchev, Bulgaria

P1.14 The Advantages of Using IoT Technology in Romanian Dams Management and Monitoring Activity

Alexandru Flutur, Septimiu Pop, Vlad Bande
Applied Electronics Department, Technical University of Cluj-Napoca, Cluj-Napoca, Romania

P1.15 Implementation of a Node Red workflow for the Beia-IoT tool compliant with the Arrowhead Framework

George Suciu, Maria Niculae, George Iordache, Cristian Beceanu, Robert Streche, Mihai Sterea, Theodor Bratu
R&D Department, Beia Consult International, Bucharest,Romania

P1.16 Smart grid performance enhancement

Cristian Beceanu, Roxana Roscaneanu, Cristina Balaceanu, George Suciu
R&D Department, Beia Consult International, Bucharest, Romania

P1.17 Virtual Instrumentation Based Benchmark System for AC Motors Testing

Daniel Visan, Ioan Lita
Electronics, Computers and Electrical Engineering Department, University of Pitesti, Romania

P1.18 System for Generation and Analysis of Line Codes

Daniel Visan, Ioan Lita
Electronics, Computers and Electrical Engineering Department, University of Pitesti, Pitesti, Romania

P1.19 Platform for researching the efficiency of conversion of light energy into electricity for the automotive field
Irina Bristena Bacîș, Lucian Andrei Perisoara, Alexandru Vasile
University Politehnica of Bucharest, Bucharest, Romania

P1.20 EDLC hybrid system for engine starting and energy recovery when braking vehicles
Alexandru VASILE, Lucian Andrei PERIȘOARĂ, Irina Bristena BACÎȘ
University Politehnica of Bucharest

P1.21 Current Implementations of Fluid Level Sensors from an Automotive Safety Perspective
Nicolae Ioan Gross, Paul Svasta
University Politehnica of Bucharest, Romania

P1.22 Improved Electronic Driver for Fast-Response On-off Valves for Digital Hydraulics
Andrei Drumea[1)], Marian Blejan[2)], and Cristina Marghescu[1)]
1) Department of Electronics Technology, University Politehnica Bucharest, Romania
2) Research Institute for Hydraulics and Pneumatics INOE2000-IHP, Bucharest, Romania

P1.23 An accurate prediction of PM2.5 concentration for a web application
Andrei Alexandrescu, Andrei Daniel Andronescu, and Dumitru Iulian Năstac
Faculty of Electronics, Telecommunications and Information Technology, University POLITEHNICA of Bucharest, Romania

P1.24 Study of dilatation and contraction produced by temperature
Ionel Horea Baciu
Applied Electronics Department, Technical University of Cluj Napoca, Romania

P1.25 Investigations regarding the increase of the nominal voltage of the supercapacitors
Rodica Negroiu, Paul Svasta, Mihaela Ramona Buga[1)], Cosmin Ungureanu[1)]
University Politehnica of Bucharest, Romania, Center of Technological Electronics and Interconnection Techniques, UPB-CETTI
1) The National Research and Development Institute for Cryogenic and Isotopic Technologies – ICSI, Râmnicu Vâlcea

Thursday, October 27

15:45 – 17:15 Networking IEEE, IMAPS Student Branch Chapter
EEST | GMT +3h

Session Chair: Ovidiu Aurel POP, Technical University of Cluj-Napoca, Romania
Session Co-Chair: Rodica NEGROIU, University Politehnica of Bucharest, Romania

Friday, October 28

09:00 - 11:00 Plenary Oral Session 2

EEST | GMT +3h

Session Chair: Boris EVSTATIEV, University of Ruse Angel Kanchev, Ruse, Bulgaria
Session Co-Chair: Rajmond JANO, Technical University of Cluj-Napoca, Romania

09:00 KN2.1 - Electronics Packaging - Some Recent Trends
Andreas Wild, AWKonsult

09.40 An attempt to design a new air quality sensor
Alexandru Popescu, Dumitru Iulian Năstac
Faculty of Electronics, Telecommunications and Information Technology, Politehnica University of Bucharest, Bucharest, Romania

10.05 Attention-based image compression in sensor assembly
S. Meier, A. Erkan, N. Thielen, S. Klarmann[1)], M. Schwab[1)], and J. Franke
Institute for Factory Automation and Production Systems (FAPS), Friedrich-Alexander Universität Erlangen-Nürnberg (FAU), Nuremberg, Germany
1) Valeo Schalter und Sensoren GmbH, Wemding, Germany

10.30 Dopants Effect on the Conductive Polymer Performances, Used for Artificial Muscles
Daniela Ionescu[1)], Gabriela Apreotesei[2)]
1) Department of Telecommunications and Informational Technologies, 1),2) " Gh. Asachi" Technical University of Iasi, Romania, 2) Department of Physics

Friday, October 29

11:30 - 13:00 Poster Session 2 (Start with a pitching session*)

EEST | GMT +3h ***Each author must deliver a maximum 1 minute video presentation of her/his work***

Session Chair: Detlef BONFERT, Fraunhofer – EMFT, Munich, IEEE EPS, Germany
Session Co-Chair: Cristina MARGHESCU, University Politehnica of Bucharest, Romania

P2.1 A brief record of upgrading a Battery Management System
Cosmin-Ionut Nastase
Dept. Electronica si Calculatoare, Universitatea Transilvania din Brasov, Brasov, Romania

P2.2 Real-Time Embedded Framework Debugger

Mihai Daraban[1)], Cosmina Corches[2)], Raul Fizesan[1)], Gabriel Chindris[1)]
1) Applied Electronics Department, Technical University of Cluj-Napoca, Cluj-Napoca, Romania
2) Automation Department, Technical University of Cluj-Napoca, Cluj-Napoca, Romania

P2.3 Mapping the environment at range: implications for camera calibration

Mălin Stănescu∗, Cristina Laura Sîrbu∗†, Ciprian Orhei∗†
∗Dept of Advanced Driver Assistance Systems, Continental Automotive, Romania
†Department of Applied Electronics, Politehnica University of Timișoara, Romania
‡Department of Communications, Politehnica University of Timișoara, Romania

P2.4 Solar Irradiance Nowcasting using IoT with LSTM RNN

Vladimir Voicu, Dorin Petreus, and Radu Etz
Department of Applied Electronics, Technical University of Cluj-Napoca, Cluj, Romania

P2.5 Analysis and comparison between urban traffic control systems

Alin Alexandru Serban, Madalin Frunzete
Faculty of Electronics, Telecommunications and Information Technology, University Politehnica Bucharest, Romania

P2.6 Experimental evaluation of LoRa for remote vehicle tracking and control in urban areas

Adrian I. Pop, Claudiu Lung, Sebastian Sabou, Radu Țarcă[1)] and Nicolae Pop[2)]
Department of Electric, Electronic and Computer Engineering, Technical University of Cluj-Napoca, Baia Mare, Romania
1) Mechatronics Department, University of Oradea, Oradea, Romania
2) Institute of Solid Mechanics of Romanian Academy, Bucharest, Romania

P2.7 Vibration spectrum analysis using FFT in the microcontroller

Nicusor Nistor, Laurentiu Baicu, Bogdan Dumitrascu,
Department of Electronics and Telecomunications, University Dunarea de Jo of Galati, Romania

P2.8 Voice Controlled Robot Dog

Georgescu Ioana, Jan-Alexandru Văduva
Computer Science & Engineering Department, University Politehnica of Bucharest, Romania

P2.9 Web Interface for IoT Vehicle Monitoring System

Nicușor-Mirel Drogeanu[1)], Lucian-Andrei Perișoară[1)], Jan-Alexandru Văduva[2)]
1) Department of Applied Electronics and Information Engineering, University Politehnica of Bucharest, Romania
2) Computer Science & Engineering Department, University Politehnica of Bucharest, Romania

P2.10 Air Quality Monitoring System Inside and Outside a Vehicle

L. M. Dragomir, Mihaela Pantazică
Department of Electronics Technology, Faculty of Electronics, Telecommunications and Information Technology, University Politehnica of Bucharest, Romania

P2.11 Implementation of a Wireless Measuring and Data Acquisition System for Hydro-generator Monitoring

Vasile Madalin Moise, Mihaela Pantazică, and B. S. Nedelcu[1)]
Department of Electronics Technology, University Politehnica Bucharest, Romania
1) Department of Research and Development, SIMTECH International, Bucharest, Romania

P2.12 Thermal Simulations for 18650 Li-Ion Batteries

Rajmond Jánó, Adelina Ioana Ilieș, and Alexandra Fodor
Applied Electronics Department, Technical University of Cluj-Napoca, Cluj-Napoca, Romania

P2.13 Workbench Study of Loading Consequences on Reliability of DC-DC PoL Converters Based on Discrete Transistors

Dan Butnicu
Electronics Department, Technical University of Iasi, Iasi, Romania

P2.14 Preliminary study for outdoor testing: Effect of Moisture and Temperature on the Stability of UV Dye Sensitized Solar Cells

M. Vajda[1),3)], D. Albulescu[2),3)], D. Ursu[3)], E. Ilies[4)], M. Marinca[4)], A. Gontean[4)], N. Miclau[5)], N. Duteanu[1)], S. Bularka[4)], and M. Miclau[3)]
1) Department of Applied Chemistry and Engineering of Inorganic Compounds and Environment, Politehnica University Timisoara, Timisoara, Romania
2) Department of Organic and Natural Compounds Engineering, Politehnica University Timisoara, Timisoara, Romania
3) Department of Condensed Matter, National Institute of Research and Development for Electrochemistry and Condensed Matter, Timisoara, Romania
4) Department of Applied Electronics, Politehnica University Timisoara, Timisoara, Romania
5) Department of Communications, Politehnica University Timisoara, Timisoara, Romania

P2.15 An Automated Data Acquisition System for the Characterization of Photovoltaic Cells

Elisei Ilies, Magdalena Marinca, S. Bularka, M. Vajda[1)], D. Albulescu2) and R. Ricman
Applied Electronics Department, Politehnica University, Timisoara, Romania,
1)Applied Chemistry and Engineering of Inorganic Compounds and Environment Department, Politehnica University, Timisoara, Romania,
2)Organic and Natural Compounds Engineering Department, Politehnica University, Timisoara, Romania,

P2.16 Energy consumption monitoring using private blockchain network based on Ethereum smart contracts

Laurenţiu Ionescu[1)], Alin Gheorghita Mazare[1)], Nadia Ionescu[2)] and Adrian-Ioan Lita[3)]
1) Electronics, Computers and Electrical Engineering, University of Pitesti, Pitesti, ROMANIA
2) Management and Industrial Manufacturing, University of Pitesti, Pitesti, ROMANIA
3) Applied Electronics, Polytechnic University Bucharest, ROMANIA

P2.17 QVCO used for PLL Grid Voltage Reference

Alina Pricopie, Mihaela Andrei, and Radu Belea
Department of Electronics and Telecommunications, Dunarea de Jos University of Galati, Romania

P2.18 Design and analysis of hybrid couplers using lumped elements and microstrip topology

Iulia Mocanu[1)], Mihaela Pantazica[2)], Norocel Codreanu[2)]
1) Department of Telecommunications, University Politehnica of Bucharest, Romania
2) Department of Electronics Technology and Reliability, University Politehnica of Bucharest, Romania

P2.19 Analysis of Different Types of Wireless Communication Modules With a Real-Time Spectrum Analyzers

Burciu Loredana-Maria, Fotescu Radu-Petru, Constantinescu Rodica-Claudia, Moise Madalin and Svasta Paul
Faculty of Electronics, Telecommunications and Information Technology, University Politehnica of Bucharest, Romania

P2.20 Electromagnetic and Electric Field Radiation inside Electric Vehicles and Classic Vehicles

Radu-Petru Fotescu, Loredana-Maria Burciu, Rodica Constantinescu and Paul Svasta
ETTI, University Politehnica of Bucharest, Romania

P2.21 On Data Preprocessing for an Improved Performance of the Sources Classification

Bogdan Dumitrascu and Dorel Aiordachioaie
Department of Electronics and Telecommunications, Dunarea de Jos University of Galati, Romania

P2.22 Multi-platform diet management application, including speech synthesis/recognition subsystem

George Suciu Jr., Luminita Marcu, Svetlana Segarceanu, Serban Calescu, Cosmina Stalidi
R&D Department BEIA Consult International Bucharest, Romania

P2.23 System for detecting and preventing cyber attacks in small businesses

Cosmina Stalidi, George Suciu Jr., Eduard-Cristian Popovici
R&D Department BEIA Consult International Bucharest, Romania

P2.24 Experiential Learning Approach for Teaching the Topic "Implementation of Brent-Kung Adders Using Computer-Based Training"
Adriana N. Borodzhieva
Department of Telecommunications, University of Ruse Angel Kanchev, Ruse, Bulgaria

P2.25 Merkle-Hellman Knapsack Cryptosystems in Undergraduate Telecommunication Security Course Using Project-Based Learning
Adriana N. Borodzhieva
Department of Telecommunications, University of Ruse Angel Kanchev, Ruse, Bulgaria

P2.26 Developing Scientific and ICT Literacy Skills when Teaching the Topic "Design and Research of Digital Comb Filters Using MATLAB"
Adriana N. Borodzhieva
Department of Telecommunications, University of Ruse Angel Kanchev, Ruse, Bulgaria

Friday, October 29

14:00– 15:00 Industrial Session 2
EEST | GMT +3h

Session Chair: Cosmin MOISĂ, Continental Automotive, Timişoara, Romania
Session Co-Chair: Mădălin MOISE, University Politehnica of Bucharest, Romania

SC Inteligent Convergent Solutions SRL **SIMTECH - INTERNATIONAL SRL**

HARMAN Romania

Friday, October 28

15:00 - 17:00 Plenary Oral Session 3
EEST | GMT +3h

Session Chair: Heinz WOHLRABE, TU Dresden, IEEE EPS, Germany
Session Co-Chair: Leon BRAI, Robert BOSCH SRL, Romania

15.00 KN3.1 Automotive Display Technologies
Vladimir CORNEA, Continental Automotive Romania

15.40 Performance Analysis of Thermoelectric Cooler – Thermoelectric Generator System for Heat Recovery Applications
Viorel Ionescu[1)] and Anisoara-Arleziana Neagu[2)]
1) Department of Physics and Electronics, Ovidius University of Constanta, Romania
2) Department of Chemistry and Chemical Engineering, Ovidius University of Constanta, Romania

16.05 Routing Aspects in PCB Design for High Frequency Circuits

Mihaela Andrei, Mihnea Dumitriu, Viorel Nicolau, and George Petrea
Department of Electronics and Telecommunications, Dunarea de Jos University of Galati, Romania

16.30 Microcontroller assisted wireless energy transmission

Nicusor Nistor, Laurentiu Baicu, and Bogdan Dumitrascu
Department of Electronics and Telecomunications, University Dunarea de Jos of Galati, Romania