smartsystemsintegration

Best paper candidates are highlighted

Conference program - Day 1

09:00	Welcome by the conference chairs: Thomas Otto Fraunhofer ENAS Stefan Finkbeiner Bosch Sensortec Emmanuel Sabonnadiere, CEA Leti
Keynote I - II Chair:	
09:10	Keynote I Electronic and Photonic Smart Systems: Contributing to a European green, digital and sovereign future, Lucy Sioli – Director for Artificial Intelligence and Digital Industry,
09:35	Keynote II LYNRED's leadership at the dawn of infrared imaging applications spreading, Patron of the conference Jean-François Delepau, CEO Lynred
10:00	Break

Session 1 **Track I - Key Enablers for Smart Systems of Next Generation** **Part 1 -Architecture, Methods, Tools**		**Session 2** **Track V - Strategy and Business Creation** **Part 1 - The Innovation Environment**		**Session 3** **Track III - Application Domains: Mobility, Energy, Industry** **Smart System Solution for Energy and Industry**	
10:20	Session Introduction and 5 Talks	**10:20**	Session Introduction and 5 Talks	**10:20**	Session Introduction and 4 Talks
10:25	End-to-End Automation Frameworks for Mapping Neural Networks onto Embedded Devices and Early Performance Predictions: A Survey Yannick Braatz, Robert Bosch GmbH	10:25	Functional electronics: Transversal Enabler for Europe's Digital Transformation and its Transition towards a Circular Economy Petra Weiler, VDI-VDE/IT	10:25	EMPOWERING ROBOTS FOR MULTIMODAL TACTILE GRIPPING USING CAPACITIVE MICROMACHINED ULTRASOUND TRANSDUCERS (CMUT) Sandro Koch, Fraunhofer IPMS
10:40	From Hardware-Software Contracts to Industrial IoT-Cloud Block-chains for Security, Privacy and Authenticity George Kornaros, ISCA Lab - Hellenic Mediterranean University	10:40	DIGIFED digitizing Europe's industry: experimentation support instruments By Bastien Hualpa, Minalogic Innovation Cluster	10:40	State-of-Charge and State-of-Health online estimation of Li-On battery for More Electrical Aircraft application based on semi-empirical ageing model and Sigma-Point Kalman Filtering Antoine LAURIN, CEA-LETI
10:55	DATA-DRIVEN PREDICTION OF THE REMAINING USEFUL LIFE OF QFN COMPONENTS MOUNTED ON PRINTED CIRTUIT BOARDS Daniel Riegel, Robert Bosch GmbH	10:55	Best practices at ecosystem level to support digitization and business creation by SMEs and startups Régis Hamelin, Blumorpho	10:55	HIGHLY INTEGRATED AND MULTI-FEATURED SMART SENSOR Natale Testa, STMicroelectronics
11:10	Systems Secured by Packaging using a GMI Structure Stephan Borel, CEA-LETI	11:10	Joint International Master in Smart Systems Integrated Solutions Knut E. Aasmundtveit, University of South-Eastern Norway	11:10	A novel liquid-cooled concept for high performance processors: proof of concept Majid Nazemi, Materialise NV
11:25	Smart System Architecture for Sensors with integrated Signal Processing and AI Gerhard Lammel, Bosch Sensortec GmbH	11:25 - 11:55	THE 5E CONTEST - Presentation of the three prize winners and award ceremony Fabrizio Fallarini, MESAP Innovation Cluster Serena Zerbinati, MESAP Innovation Cluster		
11:40	Q&A			11:25	Q&A

12:00 - 12:30 hrs	Topic Tables: TOPIC TABLE 1: European Digital Innovation HUBs TOPIC TABLE 2: ENERGY: Powering Smart Systems as well as Electronics for Energy
12:30 - 15:00 hrs	Networking
End of First Day	

Conference program - Day 2

Start of Day 2 with Winner of Thomas Gessner Award	
09:00	Award Ceremony, + Presentation
09:30:00 Poster Session Track I-V	
09:30	Introduction
09:35	Sensor Platform for Low-Power Underwater Monitoring using Hydroacoustic Communication Pontus Johannisson, RISE Research Institutes of Sweden
09:40	Adaptation and Optimization of Planar Coils for a More Accurate and Far-Reaching Magnetic Field-Based Localization in the Near Field Sven Lange Universität Paderborn, Fraunhofer ENAS
09:45	EMBEDDED ARTIFICIAL INTELLIGENCE APPROACH FOR GAS RECOGNITION IN SMART AGRICULTURE APPLICATIONS USING LOW COST MOX GAS SENSORS Claudia Bruno, STMicroelectronics
09:50	Complementary Inverter Circuits on Flexible Substrates Julia Reker; Universität Paderborn
09:55	Microcontroller Firmware Design for Industrial Wireless Sensors Dmitry Petrov, Universität Paderborn
10:00	Low-Cost Sensor System for on-the-field Water Quality Analysis Dmitry Petrov, Universität Paderborn
10:05	Determination of ANAND viscoplastic constitutive parameters for AuGe solder alloys from experimental stress-strain curves for packaging and power system integration FEA simulations Naüm Fusté, IMB-CNM (CSIC)
10:10	Investigating the Dynamics of Quantum Dot based Light-emitting Diodes with different emission wavelength Jörn Langenickel, Fraunhofer ENAS
10:15	A 12-bit SAR ADC in 180 nm Technology for Smart Sensor Systems Adrian Hofmann, TU Chemnitz
10:20	Best practice: How Edge Computing Enables Predictive Valve Maintenance in the Semiconductor Industry Michael Kaiser, Smart Systems HUB
10:25 - 10:45	Q&A
10:45 - 11:00 hrs	Coffee break

Session 4 Track II - Key Technologies for Smart Systems Part 1 - Sensing, Actuation and Power Conversion		Session 5 Track V - Strategy and Business Creation Part 2 - Policy Instruments		Session 6 Track IV - Application Domains: Food, Biomedical, Healthy Living Part: Smart Systems for bio, agri and health applications	
11:00	Session Introduction and 5 Talks	**11:00**	Session Introduction and 5 Talks	**11:00**	Session Introduction and 5 Talks
11:05	Ammonia Sensors- Different Measurement Principles Christian Möller, CiS Forschungsinstitut für Mikrosensorik GmbH	11:05	Edge AI Trends and their Impact on Smart Systems in the next Decade Kai Bierzynski, Infineon	11:05	DNA ORIGAMI FOR BIOSENSOR APPLICATIONS Julia Hann, TU Chemnitz
11:20	Micro-SOFC stack development Marco Bianchini, Catalonia Institute for Energy Research (IREC)	11:20	Smart Systems in the new Eureka Xecs cluster Peter Connock, Penta/Aeneas	11:20	Smart System for Early Detection of Severe COVID-19 Cases Michael Scholles, Fraunhofer Project Hub MEOS
11:35	Improved design of an all-Si based thermoelectric microgenerator Denise Estrada-Wiese, IMB-CNM (CSIC), Barcelona, Spain	11:35	The KDT Partnership: Status Bert de Colvenaer, ECSEL JU	11:35	ACCURATE BODY TEMPERATURE MEASUREMENT OF A NEONATE USING THERMOGRAPHY TECHNOLOGY, Kianoush Rassels, TU Delft
11:50	PIEZOELECTRIC MICROMACHINED ULTRASONIC TRANSDUCER WITH RADIAL ARRAY Chris Stoeckel, TU Chemnitz	11:50	Expectations related to Horizon Europe Henri Rajbenbach	11:50	Technologies for biodegradable wireless plant monitoring sensors Steffen Kurth, Fraunhofer ENAS
12:05	Compact Standalone North-finding Device based on MEMS Gyroscope and Maytagging Daniel Bülz, Fraunhofer ENAS	12:05	PMESC support: A national point of view Francis Deprez, VLAIO	12:05	Thermoelectric based Autonomous System for Respiratory Diseases Monitorization. Llibertat Abad, MB-CNM-CSIC
12:20	Combined Q&A (to all talks of the session)	12:20	Combined Q&A (to all talks of the session)	12:20	Combined Q&A (to all talks of the session)
12:30 Topic Tables: TOPIC TABLE 3: Transition from Healthcare to Care for Health TOPIC TABLE 4: Circular Economy and Environmental Impact					
13:15 - 15:00 hrs Networking					
End of Second Day					

Conference program - Day 3

Keynote III and IV Chair:					
09:00	Keynote III Power Electronics – An opportunity for Europe's Industry and a valuable field of cooperation between Automotive & Electronics, Remi Bastien, Renault				
09:25	Keynote IV The role of resistive memories to enable frugal AI devices, Elisa Vianello, CEA-LETI				
09:50	Break				
	Session 7 **Track I - Key - Smart Systems Applications Enablers for Smart Systems of Next Generation** **Session 2 - Smart Systems Applications**		**Session 8** **Track II - Key Technologies for Smart Systems** **session 2 - Packaging, Manufacturing and System Issues**		**Session 9** **Track IV - Application Domains** **Energy, Industrial and Social Innovation by Smart System Integration**
10:15	Session Introduction and 5 Talks	**10:15**	Session Introduction and 5 Talks	**10:15**	Session Introduction and 4 Talks
10:20	Electrochemically Deposited Aluminium for MEMS Thermal Actuator Muhammad Salman Al Farisi, Tohoku University	10:20	An ultra-thin and highly flexible multilayer Printed Circuit Board based on Parylene Franz Selbmann, Fraunhofer ENAS	10:20	ELECTRONIC COMPONENT SYSTEM TO ACHIEVE CLIMATE NEUTRALITY Antonio Imbruglia, ST Microelectronics
10:35	TOWARDS A MINIATURIZED VERSION OF THE HANBURY-BROWN-TWISS CONFIGURATION Martin Jahn, CiS Forschungsinstitut für Mikrosensorik GmbH	10:35	Ultraprecise printing of micrometric conductive structures for smart systems integration Aneta Wiatrowska, XTPL SA	10:35	Flexible Multi Sensor Monitoring System for Medium Voltage Cable Joints Sven Voigt, Fraunhofer ENAS
10:50	Intelligent, sensor-based condition monitoring of transformer stations in the distribution network Christina Nicolaou, Robert Bosch GmbH, University of Siegen	10:50	Simple and powerful encapsulation through hybrid packaging for electrochemical transducers Matthias Steinmaßl, Fraunhofer EMFT	10:50	Electrical Impedance Spectroscopy on 8-channel PSoC-Based Miniaturized Board to Enable Data-Rich Environmental Sensing Fabian Aumer, Infineon Technologies
11:05	CLOUD DRIVEN EDGE COMPUTING ON SMART SYSTEMS INTEGRATION Guido Colombo, ORCHESTRA srl - Incubator of Polytechnic of Turin	11:05	SCALE UP OF ADVANCED PACKAGING AND SYSTEM INTEGRATION FOR HYBRID TECHNOLOGIES Ramsey Selim, Tyndall National Institute	11:05	A manipulator with large area tactile sensors for application with collaborative robots Calogero Oddo, SSSA
11:20	Beamforming with AlN-based bimorph piezoelectric micromachined ultrasonic transducers Bruno Fain, CEA-LETI	11:20	How to reduce the latency of Haptic Feedback in Human computer interaction? Souvik Kundu, Tyndall National Institute		
11:35	Combined Q&A (to all talks of the session)	11:35	Combined Q&A (to all talks of the session)	11:20	Combined Q&A (to all talks of the session)
11:45 - 12:15 hrs	Topic Tables: TOPIC TABLE 5: Artificial Intelligence at the Edge (incl. Autonomous Operation of Machines) TOPIC TABLE 6: Functional electronics & Future Sensing				
12:15	Final Statement by Conference Chairs, Announcement next SSI, Best Poster Award				
networking open untill 3 p.m.					
end of the conference					