TUESDAY, 14TH JUNE 2022

SESSION A: INTRODUCTION AND KEYNOTES

09:30 **Welcome**
Erica Lillodden / Frank Altmann, Fraunhofer IMWS (DE)

09:50 **Keynote 1: How advanced packaging can help on key challenges for emerging application**
Marcel Wieland, Global Foundries (DE)

10:30 **Keynote 2: How Physics of Failure and Artificial Intelligence Concepts can be Used for Qualifying Electronic Compoments and Products**
Michael G. Pecht, University of Maryland - CALCE (US)

11:10 **Keynote 3: Progress in Failure Analysis – a Key for Reliable High-quality European Electronics**
Klaus Pressel, Infineon Technologies AG (DE)

11:50 **Lunch Break / Exhibition**

SESSION B: ADVANCED FAILURE ANALYSIS TECHNIQUES I

13:10 **Digital IC Netlist Recognition Using Graph Neural Network**
Hong Xuenong, National Technological University Singapore (SG)

13:30 **Proposal for Advanced Devices Analysis using 930nm Light Source and GaAs SIL**
Jean Roux, Hamamatsu Photonics Deutschland GmbH (DE)

13:50 **Advanced Techniques for Electrical Failure Analysis of Next Generation Semiconductor Devices**
Neel Leslie, Thermo Fisher Scientific (US)

14:10 **SEM-based Nanoprobing on Current and Future Nodes at Low Beam Voltages**
Andreas Rummel, Kleindiek Nanotechnik GmbH (DE)

14:30 **Correlated Laser Machining as Part of an Integrated Sample Preparation Workflow**
Jozef Vincenc Oboňa, TESCAN ORSAY HOLDING (CZ)

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14:10	**Coffee Break / Exhibition**

SESSION C: POWER ELECTRONICS - PACKAGING

15:30	**PoF based accelerated testing** Golta Khatibi, TU Wien (AT)
16:10	**Generation and Charcaterization of Condensation Phenomena in Power Modules** Oliver Schilling, Infineon Technologies AG (DE)
16:30	**Development and Application of a New Weathering Setup for Investigation of Polymer Degradation in Harsh Environments** Jakob Willner, Kompetenzzentrum Automobil- und Industrieelektronik GmbH (AT)
16:50	**Humidity Driven Degradation in Power Semiconductor Devices** Nando Kaminsky, University of Bremen (DE)
17:10	**Analysis of packaging materials for power devices- some new developments** Gerald Dallmann, SGS INSTITUT FRESENIUS GmbH (DE)
17:30	**Investigation of element enrichment in silicone gels used to encapsulate inverter modules for renewable power generation** Elisabeth Giebel, Fraunhofer IMWS (DE)

17:50	**Drinks Reception**
19:00	**Social Program: Caribbean Night**

Wednesday, 15th June 2022

SESSION D: POWER ELECTRONICS - NEW MATERIALS

08:00	**SiC Power Devices: A Key Enabler for the Future E-Mobility** Manuel Gaertner, STMicroelectronics N.V. (CH)
08:40	**SiC Power MOSFETs Package-Level Testing and Issues in Normal- and Abnormal-Conditions** Francesco Iannuzzo, Aalborg University (DK)
09:00	**Condition Monitoring of SiC Power Modules to Support Predictive Maintenance** Giovanni Di Nuzzo, Infineon Technologies AG (DE)
09:20	**Quantitative Aluminum Depth-Profile Measurements in SiC using Laser Assisted Methods** Maximilian Podsednik, Kompetenzzentrum Automobil- und Industrieelektronik GmbH (AT)
09:40	**Material Characterization of Cement Based Encapsulation** Bianca Boettge, Fraunhofer IMWS (DE)
10:00	**Front Side Interconnection with Die Top System for Improved Reliability and High Temperature Performance** Christophe Fery, Heraeus Deutschland GmbH & Co. KG (DE)

10:20 **Coffee Break / Exhibition**

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SESSION E: AI APPLICATIONS FOR FAILURE ANALYSIS

11:00	**AI in Failure Analysis: Applications and Benefits** Anna Safont, University of Klagenfurt (AT) / Infineon Technologies AG (DE)
11:40	**High Speed 3D X-ray Imaging of Defects at Submicron Resolution in Large Electronic Components** Jeff Gelb, Sigray Inc. (US)
12:00	**Automatic-X-Ray inspection in combination with AI analysing methods** Eckhard Sperschneider, Direct Conversion AB (SE)
12:20	**Machine Learning Approaches for Assisting Data Interpretation in Failure Analysis: Enhanced Signal Analysis in Acoustic Microscopy for Defect Localization and Material Characterization** Sebastian Brand, Fraunhofer IMWS (DE)
12:40	**Deep Learning-assisted microscopic acquisition of microelectronic components with integrated region-of-interest feature extraction** Matias Oscar Volman Stern, Matworks GmbH (DE)
13:00	**Deep Learning Denoising of SEM Images Based on Denoiseg Trained with Synthetic Images** Khaled Al-Saih, University Saint Etienne (FR)

13:20 **Lunch Break / Exhibition**

WEDNESDAY, 15TH JUNE 2022

SESSION F: PANEL DISCUSSION

14:40	**Panel Discussion**

SESSION G: ADVANCED FAILURE ANALYSIS TECHNIQUES II

15:40	**Measure, Heat & Repeat – Development of a High Resolution Metrology Tool for Thermal Warpage Measurement in Failure Analysis and Beyond** Simon Cannonier, cyberTECHNOLOGIES GmbH (DE)
16:00	**High-resolution EBIC with STEM: developments and applications** Grigore Moldovan, Point electronic GmbH (DE)
16:20	**Single platform workflows for physical failure analysis for Power, Logic & Memory** Libor Strakos, Thermo FisherScientific Inc (CZ)
16:40	**Correlation of Pore Formation and Microstructural Characteristics by Linking SEM and EBSD Data – Application to the Cu Metallization of Power Devices** Manuel Petersmann, Kompetenzzentrum Automobil- und Industrieelektronik GmbH (AT)