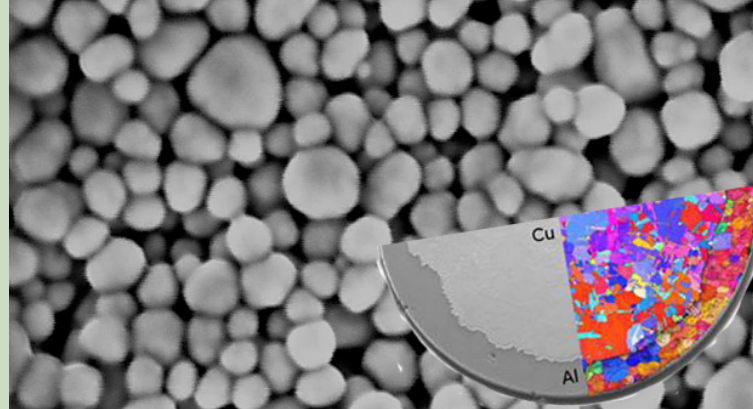


**INTERNATIONAL WORKSHOP  
ON FAILURE ANALYSIS  
AND QUALITY  
ASSURANCE IN POWER ELECTRONICS**



**WORKSHOP PROGRAM**

**TUESDAY, 9<sup>TH</sup> APRIL**

Session 1: Trends in Power Electronics and Resulting Demands on Material Diagnostics and Quality Assurance

- 12:00 Registration/Welcome Snack
- 13:00 **Material Diagnostics in Power Electronics Workshop Opening and Introduction**  
Prof. Dr. Matthias Petzold | Fraunhofer Institute for Mechanics of Materials IWM
- 13:25 **Trends and Challenges in Power Electronics for Automotive Applications**  
Dr. Wolfgang Wondrak | Daimler AG
- 13:50 **The Role of Analytics in the Robustness Validation Process**  
Prof. Dr. Eckhard Wolfgang | ECPE European Center for Power Electronics e.V.
- 14:15 **Challenges on Diagnostics of Power Electronics Modules and Assemblies**  
Prof. Dr. Hans-Jürgen Albrecht | Siemens AG
- 14:40 **Potential and Limits of Material Diagnostics and Quality Assurance for Interface Characterization of Die Attach Technologies**  
Dr. Michael Günther | Robert Bosch GmbH
- 15:05 **Coffee Break/Industrial Exhibition and Networking Opportunity**

Session 2: Material Diagnostics and Failure Analysis Examples for Current Power Electronic Technologies

- 16:05 **Failure Analysis Work Flow for IGBTs**  
Tim Konopka | Infineon Technologies AG, Warstein

- 16:30 **High Resolution Construction Analysis of GaN HEMT**  
Dr. Helmut Jung | United Monolithic Semiconductors GmbH Ulm
- 16:55 **Improved Lifetime of Power Modules by the Use of Silver Sintering Materials and Aluminum-Coated Copper Wires**  
Wolfgang Schmitt | Heraeus Material Technologies GmbH
- 17:20 **Ag-sintering as new Application Technology and Demands for Analysis**  
Ulrich Sagebaum | Semikron Elektronik GmbH & Co. KG
- 17:45 **Some Aspects of Power Module Terminal Interconnects**  
Heiko Knoll | IXYS Semiconductor GmbH
- 18:10 **Time for Hotel Check-in/Industrial Exhibition and Networking Opportunity**
- 19:30 **Networking Dinner**

**WEDNESDAY, 10<sup>TH</sup> APRIL**

Session 3: New Equipment Solutions for In-line Diagnostics and Quality Control

- 9:00 **Gordon Moore's Law applied on AOI Image Processing: from Binary, Gray, Color towards 3D**  
Michael Mügge | Viscom AG
- 9:35 **Automated Quality Inspection of Power Electronics Modules using Scanning Acoustic Microscopy**  
Dr. Peter Czurratis | PVA Tepla Analytical Systems AG

- 9:50 **Localization of electrical active Defects on Power Devices using Lock-in Thermography**  
Christian Schmidt | DCG Systems, Inc
- 10:15 **Backside local Decapsulation of IGBT-Modules with micro abrasive Ablation**  
Rajinder Bhandari | Infineon Technologies AG, München
- 10:40 **Coffee Break/Industrial Exhibition and Networking Opportunity**

Session 4: Innovative Methods for Material Diagnostics, Failure Analysis, and Reliability Testing

- 11:15 **High Voltage EBIC Analysis of pn Junctions**  
Stephan Kleindiek | Kleindiek Nanotechnik GmbH
- 11:40 **Measurement Technology for the thermal Impedance in Semiconductor Power Devices**  
Christian Herold | Technische Universität Chemnitz
- 12:05 **New Approaches and Solutions for accelerated Reliability Tests and In situ-condition Monitoring**  
Dr. Olaf Wittler | Fraunhofer IZM
- 12:30 **Characterization of Mechanical Fatigue Parameters for Heavy Wire Bonding Materials**  
Falk Naumann | Fraunhofer CAM
- 13:00 **Lunch/Industrial Exhibition and Networking Opportunity**
- 14:00 **Lab Tours at CAM/Tool Demos**
- 15:30 **End of Workshop**