Program for *7th International Conference on Integrated Power Electronics Systems*

Tuesday, March 6

10:30 AM - 10:50 AM

Opening

Room: Saal Kaiser Karl IV.

10:50 AM - 12:30 PM

Session 1: Emerging Technologies

Room: Saal Kaiser Karl IV.
Chairs: Leo Lorenz (Infineon Technologies, Germany), Eckhard Wolfgang (ECPE e. V., Germany)

10:50 ***Keynote: Extreme Efficiency Power Electronics - CCM vs. DCM Operation***
Johann. W. Kolar (ETH Zurich, Power Electronic Systems Laboratory, Switzerland)

11:30 ***Advanced cooling for power electronics (Invited)***
Sukhvinder Kang (Aavid, USA)

12:00 ***Analysis of innovative packaging technologies and trends for power modules (Invited)***
Alexandre Avron (Yole Développement, France)

12:30 PM - 1:40 PM

Lunch (1)

1:40 PM - 3:10 PM

Session 2: Design

Room: Saal Kaiser Karl IV.
Chairs: Uwe Drofenik (ABB Corporate Research, Switzerland), Volker Pickert (Newcastle University, United Kingdom), Nicolas Rouger (Grenoble University & Grenoble electrical engineering lab, France)

1:40 ***Electromagnetic Modeling of EMI Input Filters (Invited)***
Ivana Kovacevic (ETH Zurich, Power Electronic Systems Laboratory, Switzerland); Andreas Müsing (Gecko-Research GmbH, Switzerland); Thomas Friedli (ETH Zurich, Switzerland); Johann. W. Kolar (ETH Zurich, Power Electronic Systems Laboratory, Switzerland)

2:10 ***Calculating Transient Thermal Loads of ECUs in Engine Compartment by Applying Simplified Physical Models***
Michael Decker (Continental Automotive GmbH, Germany); Thomas Riepl (Continental Automotive GmbH, Germany)

2:30 ***Comparative Evaluation of Individual and Coupled Inductor Arrangements for Input Filters of PV Inverter Systems***
Bernardo Cougo (ETH Zurich, Switzerland); Thomas Friedli (ETH Zurich, Switzerland); David Boillat (ETH Zurich, Power Electronic Systems Laboratory, Switzerland); Johann. W. Kolar (ETH Zurich, Power Electronic Systems Laboratory, Switzerland)

2:50 ***Analysis and Reduction of Radiated EMI of Power Modules***
André Domurat-Linde (Fraunhofer IZM, Germany); Eckart Hoene (Fraunhofer-Institut für Zuverlässigkeit und Mikrointegration IZM, Germany)

3:10 PM - 3:40 PM

Coffee break (1)

3:40 PM - 4:40 PM

Session 3: Applications

Room: Saal Kaiser Karl IV.
Chairs: Christian Conrath (Schneider-Electric, STIE & Schneider-Electric, France), Martin März (FhG Erlangen, Germany)

3:40 ***The performance comparison of the multilevel converter topologies for PV inverter***
Yugo Kashihara (Nagaoka University of Technology, Japan); Jun-ichi Itoh (Nagaoka University of Technology, Japan)

4:00 ***Integrated Power Electronics Interface for Plug-In Hybrid Electric Vehicle Applications***
Omar Hegazy (Vrije Universiteit Brussel, Belgium); Joeri Van Mierlo (Vrije Universiteit Brussel, Belgium); Philippe Lataire (Vrije Universiteit Brussel, Belgium); Mohamed El Baghdadi (Vrije Universiteit Brussel, Belgium)

4:40 PM - 5:00 PM

Break (1)

5:00 PM - 7:00 PM

Session 4: Reliability (1)

Room: Saal Kaiser Karl IV.
Chairs: Uwe Scheuermann (Semikron, Germany), Josef Lutz (Chemnitz University of Technology, Germany)

5:00 ***Keynote: Reliability of Power Electronics Under Thermal Loading***
Patrick McCluskey (University of Maryland, USA)

5:40 ***Reliability driven virtual prototyping of power electronic equipment - a case study***
Till Huesgen (ABB Corporate Research, Switzerland); Gernot J Riedel (ABB Corporate Research, Switzerland); Uwe Drofenik (ABB Corporate Research, Switzerland)

6:00 ***New Methods Help Better Evaluate Risks via Simulation***
Angelika Schingale (Continental Automotive GmbH, Germany); Marius Tarnovetchi (Continental Automotive Romania Srl, Romania); Andreas Schießl (Continental Automotive GmbH, Germany); Daniela Wolf (Continental Automotive GmbH, Germany)

6:20 ***Separating failure modes in Power Cycling Tests***
Ralf Schmidt (Semikron Elektronik GmbH, Germany); Uwe Scheuermann (Semikron, Germany)

7:00 PM - 7:20 PM

Break (2)

7:20 PM - 9:00 PM

Dialog Session

Chairs: Jean Michel Morelle (VALEO, France), Andreas Lindemann (University of Magdeburg, Germany), Nando Kaminski (University of Bremen, Germany)

P01: Control of Primary Active Rectifiers of Traction Converter with Medium-Frequency Transformer: Benefits of Control Unit Combining DSP and FPGA
Dušan Janík (University of West Bohemia, Czech Republic); Zdeněk Peroutka (University of West Bohemia, Czech Republic); Jan Molnár (University of West Bohemia, Czech Republic); Tomáš Komrska (University of West Bohemia, Czech Republic); Jan Žák (University of West Bohemia, Czech Republic)

P02: Scalable High Insulation Power Supply for Medium Voltage Power Converters
Iosu Aizpuru (Mondragon Goi Eskola Politeknikoa, Spain); Jose Maria Canales (Mondragon Goi Eskola Politeknikoa & Mondragon University, Spain); Jesus Fernández (Mondragon Goi Eskola Politeknikoa, Spain)

P03: Amplitude Modulated Resonant Push-Pull Driver for Piezoelectric Transformers in Switching Power Applications
Holger Schwarzmann (Fraunhofer IISB, Germany); Tobias Erlbacher (Fraunhofer IISB, Germany); Anton Bauer (Fraunhofer IISB, Germany); Heiner Ryssel (Fraunhofer IISB, Germany); Lothar Frey (Fraunhofer IISB, Germany)

P04: Asymmetrical Parasitic Inductance Utilized for Switching Loss Reduction in Power Modules
Michael Frisch (Vincotech GmbH, Germany); Ernö Temesi (Vincotech Kft.(Hungary), Hungary)

P05: Thermal Management Concepts for Power Sandwich Industrial Drive
Ivan Josifovic (Delft University of Technology, The Netherlands); Jelena Popovic (Delft University of Technology, The Netherlands); Braham Ferreira (Delft University of Technology, The Netherlands)

P06: Reliable Integration of Double-Sided Cooled Stacked Power Switches based on 70 um Thin IGBTs and Diodes
Alberto Castellazzi (University of Nottingham & Power Electronics, Machines and Control Group, United Kingdom); Jianfeng Li (University of Nottingham, United Kingdom); C Mark Johnson (University of Nottingham, United Kingdom); Adane Solomon (University of Nottingham, United Kingdom)

P07: Influence of baseplate design on cooling performance and reliability
Kai Kriegel (Siemens AG, Germany); Svetlana Levchuk (Siemens AG, Germany); Johann Otto (Siemens AG, Germany); Thomas Komma (Siemens AG, Germany); Walter Kiffe (Siemens AG, Germany)

P08: Comparison between electromagnetic and thermal stress induced by Direct Current flow in IGBT bond wires
Hassen Medjahed (Universite de Toulouse, France); Paul-Etienne Vidal (Université de TOULOUSE & Laboratoire Génie de Production, ENIT, France); Bertrand Nogarede (Université de Toulouse, France)

P09: Centrifugal Formulation of Percolating Thermal Underfills for Flip-Chip Applications
Jonas Zürcher (IBM Research - Zurich, Switzerland); Javier Goicochea (IBM Research - Zürich, Switzerland); Keiji Matsumoto (IBM-Japan, Japan); Bruno Michel (IBM Research - Zurich, Switzerland); Thomas Brunschwiler (IBM Research - Zurich, Switzerland)

P10: Development and Testing of Cold gas Sprayed Circuit Boards for Power Electronics Applications
Eugen Rastjagaev (University of Freiburg & IMTEK, Germany); Jürgen Wilde (University of Freiburg, Germany)

P11: Development of high temperature packaging technologies for SiC power devices based on finite elements simulation and experiments - thermal approach
Ludi Zhang (University of Bordeaux & IMS Laboratory, France); Stephane Azzopardi (University of Bordeaux & IMS Laboratory, France); Alexandrine Guedon-Gracia (University of Bordeaux & IMS Laboratory, France); Eric Woirgard (University of Bordeaux & IMS Laboratory, France); Jean-Yves Deletage (University of Bordeaux & IMS Laboratory, France)

P12: Mixed-Signal and Smart-Power Capable Hybrid Structured ASIC for Cost-Aware Single-Chip Integration of Industrial Applications
Yipin Zhang (Institute for Microelectronics Stuttgart, Germany); Cor Scherjon (Institut für Mikroelektronik Stuttgart, Germany); Joachim Burghartz (IMS Chips, Germany)

P13: Design Considerations of Very Low Profile Coupled Inductors for Flexible Photovoltaic Module
Ziwei Ouyang (Technical University of Denmark, Denmark); Milos Acanski (Delft University of Technology, The Netherlands); Jelena Popovic (Delft University of Technology, The Netherlands); Braham Ferreira (Delft University of Technology, The Netherlands); Ole Thomsen (Technical University of Denmark, Denmark); Michael Andersen (Technical University of Denmark, Denmark)

P14: Design of a PCB Rogowski coil based on the PEEC Method
Thomas Guillod (ETH Zürich, Switzerland); Dominic Gerber (ETH Zürich, Switzerland); Jürgen Biela (ETH Zurich, Switzerland); Andreas Muesing (ETH Zürich, Switzerland)

P15: Wafer-level fabrication of high power density MEMS passives based on silicon molding technique
Jiping Li (University of Florida, USA); Khai D.T. Ngo (Virginia Tech, USA); Guo-Quan Lu (Virginia Tech & NBE Technologies, LLC, USA); Huikai Xie (University of Florida, USA)

P16: A Hybrid Hydraulic Piezo Actuator and its Control for Camless Internal Combustion Engines
Paolo Mercorelli (Leuphana University Lueneburg, Germany); Nils Werner (Ostfalia University of Applied Sciences, Germany); Udo Becker (Ostfalia University of Applied Sciences, Germany); Horst Harndorf (University of Rostock, Germany)

P17: Reliability Comparison of a Dual Boost and a Triangular Current Mode Resonant-Transition PFC Converter Topology
Sebastian Alleman (EMPA Swiss Federal Laboratories for Materials Science and Technology, Switzerland); Marcel Held (Empa Swiss Federal Laboratories for Materials Testing and Research, Switzerland); Jürgen Biela (ETH Zurich, Switzerland)

P18: EMI Prediction of Power Converters using Switching Waveform Analysis
Sebastian Schulz (Otto-von-Guericke-University Magdeburg, Germany); Peter Kanschat (Infineon Technologies AG Warstein, Germany); Andreas Lindemann (University of Magdeburg, Germany)

P19: Consideration of Electrical Parasitics in Conjunction with Thermal Behaviour of Power Semiconductor Components
Stefan Förster (Otto-von-Guericke University, Germany); Andreas Lindemann (University of Magdeburg, Germany)

P20: GaN-over-Si: The Promising Technology for Power Electronics in Automotive
Cherif Assad (Freescale Semiconducteurs SAS, France); Herve Mureau (Freescale Semiconductor, France)

P21: How to Control SiC BJT with High Efficiency?
Luyu Wang (Lund University, Sweden); Hans Bängtsson (Lund University, Sweden)

P22: Application of eGaN FETs for highly efficient Radio Frequency Power Amplifier
Dejana Cucak (Universidad Politecnica, Spain); Miroslav Vasic (Universidad Politecnica de Madrid, Spain); Oscar Suarez (Universidad POlitecnica de Madrid, Spain); Jesus Oliver (Universidad Politecnica de Madrid, Spain); Pedro Alou (Universidad Politecnica de Madrid, Spain); Jose A. Cobos (Universidad Politécnica de Madrid (UPM), Spain)

P23: Sinter materials for broad process windows in DCB packages - concepts and results
Wolfgang Schmitt (Heraeus Materials Technology Gmbh & Co. KG, Germany); Sebastian Fritzsche (Heraeus Materials Technology GmbH & Co. KG, Germany); Muriel Thomas (Heraeus Materials Technology GmbH&Co. Kg, Germany)

P24: Quality evaluation for silver sintering layers in power electronic modules
Jacek Rudzki (Danfoss Silicon Power GmbH, Germany); Lars Jensen (University of Applied Scienses Kiel, Germany); Max Poech (Fraunhofer Institut für Siliziumtechnologie, Germany); Lothar Schmidt (Fraunhofer Institut für Siliziumtechnologie, Germany); Frank Osterwald (Danfoss Silicon Power GmbH, Germany)

P25: Evaluation of silver-sintering die attach
Wissam Sabbah (Safran Group, France); Raphaël Riva (Université de Lyon Laboratoire Ampere CNRS UMR 5005 Insa de Lyon, France); Stanislas Hascoët (Université de Lyon Laboratoire Ampere CNRS UMR 5005 Insa de Lyon, France); Cyril Buttay (Université de Lyon Laboratoire Ampere CNRS UMR 5005 & Insa de Lyon, France); Stephane Azzopardi (University of Bordeaux & IMS Laboratory, France); Eric Woirgard (University of Bordeaux & IMS Laboratory, France); Dominique Planson (Université de Lyon Laboratoire Ampere CNRS UMR 5005 Insa de Lyon, France); Bruno Allard (INSA Lyon, France); Régis Meuret (Safran Group, France)

Wednesday, March 7

8:30 AM - 10:20 AM

Session 5: Reliability (2)

Room: Saal Kaiser Karl IV.
Chairs: Peter de Place Rimmen (Danfoss Power Electronics A/S, Denmark), Bruno Allard (INSA Lyon, France)

8:30 ***In-situ Bond Wire and Solder Layer Health Monitoring Circuit for IGBT Power Modules***
Bing Ji (Newcastle University, United Kingdom); Volker Pickert (Newcastle University, United Kingdom); Bashar Zahawi (Newcastle University, United Kingdom)

8:50 ***Thermal Networks for Time-Variant Cooling Systems: Modeling Approach and Accuracy Requirements for Lifetime Prediction***
Thomas Gradinger (ABB Switzerland Ltd., Corporate Research, Switzerland); Gernot J Riedel (ABB Corporate Research, Switzerland)

9:10 ***Lifetime evaluation of IGBT power modules applying a nonlinear saturation voltage observer***
Dennis Wagenitz (Beuth Hochschule für Technik, Germany); Andreas Hambrecht (Beuth Hochschule für Technik, Germany); Sibylle Dieckerhoff (TU Berlin, Germany)

9:30 ***Influence of thermal cross-couplings on power cycling lifetime of IGBT power modules***
Tilo Poller (Chemnitz University of Technology, Germany); Salvatore D'Arco (NTNU Trondheim, Norway); Magnar Hernes (SINTEF Energy Research, Norway); Josef Lutz (Chemnitz University of Technology, Germany)

9:50 ***Combined Reliability Testing: An approach to assure reliability under complex loading conditions (Invited)***
Olaf Wittler (Fraunhofer IZM, Germany); Johannes Jaeschke (Fraunhofer IZM, Germany); Olaf Bochow-Neß (Fraunhofer IZM, Germany); Andreas Middendorf (Fraunhofer IZM, Germany); Klaus-Dieter Lang (TU Berlin, Germany)

Session (7): Magnetics Components (1)

Room: Saal Kaiser Maximilian
Chairs: Braham Ferreira (Delft University of Technology, The Netherlands), Jürgen Biela (ETH Zurich, Switzerland)

8:30 ***Efficient nonlinear inductors for PV inverters and active PFC***
Alexander Stadler (STS Spezial-Transformatoren-Stockach GmbH & Co. KG & R&D Center im IGZ Innovations- und Gründerzentrum Nürnberg-Fürth-Erlangen GmbH, Germany); Christof Gulden (STS Spezial-Transformatoren-Stockach GmbH & Co. KG, Germany)

8:50 ***A 150kW Medium Frequency Transformer Optimized for Maximum Power Density***
Uwe Drofenik (ABB Corporate Research, Switzerland)

9:10 ***Integration of Leakage Inductance in Tape Wound Core Transformers for Dual Active Bridge Converters***

Bernardo Cougo (ETH Zurich, Switzerland); Johann. W. Kolar (ETH Zurich, Power Electronic Systems Laboratory, Switzerland)

9:30 ***Laminated Bus Bar Structure for Low Induced Noise***
Zen-nosuke Ariga (Tokyo Metropolitan University, Japan); Keiji Wada (Tokyo Metropolitan University, Japan)

9:50 ***Integrated, High-Frequency DC-DC Converter Technologies Leading to Monolithic Power Conversion (Invited)***
Ashraf Lotfi (Enpirion, Inc., USA); Qiang Li (Virginia Tech, USA); Fred Lee (Virginia Tech, USA)

10:20 AM - 10:50 AM

Coffee break (2)

10:50 AM - 12:30 PM

Session 6: Reliability (3)

Room: Saal Kaiser Karl IV.
Chairs: Wolfgang Wondrak (Daimler AG, Germany), Giovanni Busatto (University of Cassino, Italy)

10:50 ***System Approach for Reliability of Low-power Power Electronics; How to Break Down into Their Constructed Parts***
Sima Tarashioon (Delft University of Technology & Material Innovation Institute, The Netherlands)

11:10 ***Influence of Bonding Parameters on the Reliability of Heavy Wire Bonds on Power Semiconductors***
Jens Goehre (Fraunhofer IZM, Germany); Ute Geißler (Berlin University of Technology, Germany); Martin Schneider-Ramelow (Fraunhofer IZM, Germany); Klaus-Dieter Lang (Berlin University of Technology, Germany)

11:30 ***Microstructural and Mechanical Characterization of Ceramic Substrates with Different Metallization for Power Applications***
Bianca Böttge (Fraunhofer Institute for Mechanics of Materials, Germany); Sandy Klengel (Fraunhofer Institute for Mechanics of Materials, Germany); Jan Schischka (Fraunhofer Institute for Mechanics of Materials, Germany); Georg Lorenz (Fraunhofer Institute for Mechanics of Materials, Germany); Heiko Knoll (IXYS Semiconductor GmbH, Germany)

11:50 ***Reliability of Large Area Solder Joints within IGBT Modules: Numerical Modelling and Experimental Results***
Gernot J Riedel (ABB Corporate Research, Switzerland); Roland Schmidt (ABB Corporate Research, Switzerland); Chunlei Liu (ABB Switzerland, Switzerland); Harald Beyer (Abb Semiconductors, Switzerland); Ilari Alaperä (ABB Corporate Research, Switzerland)

12:10 ***Effect of Input Power Interruptions on Power Electronics Reliability***
Juha Pippola (Tampere University of Technology, Finland); Laura Frisk (Tampere University of Technology, Finland); Kati Kokko (Tampere University of Technology, Finland); Janne Kiilunen (Tampere University of Technology, Finland); Tuomas Marttila (Tampere University of Technology, Finland)

Session 8: Magnetics Components (2)

Room: Saal Kaiser Maximilian
Chairs: Anton Breier (NMB Minebea GmbH, Germany), Philippe Dupuy (Freescale Semiconductor Inc., France), Lorenz Leo (ECPE, Germany)

10:50 ***Micro-fabricated thin-film inductors for on-chip power conversion***
Daniel Harburg (Thayer School of Engineering at Dartmouth, USA); Xuehong Yu (Georgia Institute of Technology, USA); Florian Herrault (Georgia Institute of Technology, USA); Christopher Levey (Thayer School of Engineering at Dartmouth, USA); Mark Allen (Georgia Institute of Technology, USA); Charles Sullivan (Thayer School of Engineering at Dartmouth, USA)

11:10 ***Radial-Anisotropy Thin-Film Magnetic Material for High-Power-Density Toroidal Inductors***
Jizheng Qiu (Thayer School of Engineering at Dartmouth, USA); Charles Sullivan (Thayer School of Engineering at Dartmouth, USA)

11:30 ***An Improved Parasitic Capacitance Compensation Method for Planar Differential Mode Inductor in EMI Filters***
Wenhua Tan (Ecole Centrale de Lille & Laboratory of Electrical Engineering and Power Electronics, France); Xavier Margueron (ECLille - L2EP, France); Thierry Duquesne (Université de Lille 1, France); Nadir Idir (Universite de Lille 1 - L2EP, France)

11:50 ***Hybrid Integrated EMC filter for CM and DM EMC Suppression in a DC-DC Power converter***
Marwan Ali (Laboratoire SATIE-ENS Cachan, France); Eric Laboure (LGEP, France); Francois Costa (SATIE, France); Bertrand Revol (SATIE, France); Cyrille Gautier (SATIE, France)

12:30 PM - 1:50 PM

Lunch (2)

1:50 PM - 3:00 PM

Session 9: Packaging

Room: Saal Kaiser Karl IV.
Chairs: Martin Schneider-Ramelow (Fraunhofer IZM, Germany), Norbert Seliger (FH Rosenheim, Germany)

1:50 ***Integrated high power modules (Invited)***
C Mark Johnson (University of Nottingham, United Kingdom); Alberto Castellazzi (University of Nottingham & Power Electronics, Machines and Control Group, United Kingdom); Robert Skuriat (University of Nottingham, United Kingdom); Paul Evans (University of Nottingham, United Kingdom); Jianfeng Li (University of Nottingham, United Kingdom); Pearl Agyakwa (University of Nottingham, United Kingdom)

2:20 ***Alternative lead free die attach for power module packaging***
Jean Michel Morelle (VALEO, France); Ky Lim Tan (Valeo, France); Renan Leon (Valeo, France); Laurent Vivet (Valeo, France); Serge Lavrentieff (Valeo, France)

2:40 ***Reducing Parasitic Electrical Parameters with a Planar Interconnection Packaging Structure***
Zhenxian Liang (Oak Ridge National Laboratory, USA); Puqi Ning (Oak Ridge National Laboratory, USA); Fred Wang (The University of Tennessee, USA); Laura Marlino (ORNL, USA)

3:00 PM - 3:30 PM

Coffee break (3)

3:30 PM - 4:30 PM

Session 10: High and medium power modules

Room: Saal Kaiser Karl IV.
Chairs: Stefan Linder (ABB, Switzerland), Thomas Licht (FH Düsseldorf, Germany)

3:30 ***New assembly and interconnect technologies for power modules***
Karsten Guth (Infineon Technologies AG, Germany); Niels Oeschler (Infineon Technologies, Germany); Lars Böwer (Infineon Technologies, Germany); Roland Speckels (Infineon Technologies, Germany); Guido Strotmann (Infineon Technologies, Germany); Nikolas Heuck (Infineon Technologies, Germany); Sandra Krasel (InfineonTechnologies, Germany); Alexander Ciliox (Infineon Technologies, Germany)

3:50 ***Direct cooled modules - integrated heat sinks***
Olaf Hohlfeld (Infineon Technologies AG, Germany); Alexander Herbrandt (Infineon Technologies AG, Germany)

4:10 ***Stacked substrates for high voltage applications***
Olaf Hohlfeld (Infineon Technologies AG, Germany); Reinhold Bayerer (Infineon Technologies AG, Germany); Hans Hartung (Infineon Technologies AG, Germany); Thomas Hunger (Infineon Technologies AG, Germany)

4:30 PM - 4:50 PM

Break (3)

4:50 PM - 5:30 PM

Introduction to Wide Band Gap

Room: Saal Kaiser Karl IV.
Chairs: Peter Friedrichs (Infineon, Germany), Ichiro Omura (Kyushu Institute of Technology, Japan)

4:50 ***SiC and GaN Devices - Competition or Coexistence? (Invited)***
Nando Kaminski (University of Bremen, Germany); Oliver Hilt (FBH, Germany)

7:00 PM - 10:00 PM

Conference Dinner

Thursday, March 8

9:00 AM - 10:40 AM

Session 11: Wide Band Gap

Room: Saal Kaiser Karl IV.
Chairs: Peter Friedrichs (Infineon, Germany), Ichiro Omura (Kyushu Institute of Technology, Japan)

9:00 ***Holistic Approach to Maximize Power Density in Industrial Inverter Designs***
Martin Schulz (Infineon Technologies, Germany); Liliana De Lillo (University of Nottingham, United Kingdom); Lee Empringham (University of Nottingham, United Kingdom)

9:20 ***Integrated Anti-Short-Circuit Safety Circuit in CMOS SOI for Normally-On JFET***
Khalil El Falahi (Ampere Lab & INSA Lyon, France); Fabien Dubois (Ampere Lab, France); Damien Risaletto (Laplace, France); Dominique Bergogne (Ampere Lab, France); Bruno Allard (INSA Lyon, France)

9:40 ***Electrical Analysis and Packaging Solutions for High-Current Fast-Switching SiC Components***
Michel Mermet-Guyennet (ALSTOM Transport, France); Alberto Castellazzi (University of Nottingham & Power Electronics, Machines and Control Group, United Kingdom); Joseph Fabre (Alstom-Transport / LAPLACE, France); Philippe Ladoux (Université de Toulouse, France)

10:00 ***Design of an integrated power converter in Wide Band Gap for harsh environments***
Jean-François Mogniotte (INSA de Lyon & Laboratoire AMPERE, France); Dominique Tournier (INSA Lyon, France); Pascal Bevilacqua (INSA de Lyon, France); Philippe Godignon (Instituto de Microelectrónica de Barcelona, Spain); Dominique Planson (Université de Lyon Laboratoire Ampere CNRS UMR 5005 Insa de Lyon, France)

10:20 ***Reducing expenditure with cooling in renewable power conversion systems with innovative SiC switches***
Samuel Araujo (Universität Kassel, Germany); Peter Zacharias (Universität Kassel, Germany)

10:40 AM - 11:10 AM

Coffee break (4)

11:10 AM - 12:50 PM

Session 12: Sinter Joinings

Room: Saal Kaiser Karl IV.
Chairs: Kai Kriegel (Siemens AG, Germany), Frank Osterwald (Danfoss Silicon Power GmbH, Germany)

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11:10 ***3-Dimensional, Solder-Free Interconnect Technology for High-Performance Power Modules***
Bassem Mouawad (Université de Lyon Laboratoire Ampere CNRS UMR 5005 Insa de Lyon, France); Cyril Buttay (Université de Lyon Laboratoire Ampere CNRS UMR 5005 & Insa de Lyon, France); Maher Soueidan (Université de Lyon Laboratoire Ampere CNRS UMR 5005 Insa de Lyon, France); Herve Morel (Université de Lyon, INSA Lyon, Lab Ampère, CNRS, France); Bruno Allard (INSA Lyon, France); Damien Fabrègue (Université de Lyon MATEIS CNRS UMR 5510, France); Vincent Bley (Université de Toulouse UPS INPT LAPLACE, France)

11:30 ***Reliability of Silver Sintering on DBC and DBA Substrates for Power Electronic Applications***
Silke Kraft (Fraunhofer Institute for Integrated Systems and Device Technology IISB, Germany); Andreas Schletz (Fraunhofer Institute for Integrated Systems and Device Technology IISB, Germany); Martin März (FhG Erlangen, Germany)

11:50 ***Low-pressure (< 5 MPa) Low-temperature Joining of Large-area Chips on Copper Using Nanosilver Paste***
Hanguang Zheng (Virginia Tech, USA); Jesus Calata (Virginia Tech, USA); Khai D.T. Ngo (Virginia Tech, USA); Susan Luo (NBE Technologies, LLC, USA); Guo-Quan Lu (Virginia Tech & NBE Technologies, LLC, USA)

12:10 ***Sintered Silver Joint Strength Dependence on Substrate Topography and Attachment Pad Geometry***
Andrew Wereszczak (Oak Ridge National Laboratory, USA); Daniel Vuono (Oak Ridge National Laboratory, USA); Zhenxian Liang (Oak Ridge National Laboratory, USA); Ethan Fox (Oak Ridge National Laboratory, USA)

12:30 ***Thermo mechanical Reliability of Low-temperature Low-pressure Die Bonding Using Thin Ag Flake Pastes***
Soichi Sakamoto (Osaka University, Japan); Katsuaki Suganuma (Osaka University, Japan)

12:50 PM - 1:50 PM

Lunch (3)

1:50 PM - 3:30 PM

Session 13: Future

Room: Saal Kaiser Karl IV.
Chairs: Reinhold Bayerer (Infineon Technologies AG, Germany), Dieter Silber (Bremen University, Germany)

1:50 ***Planar interconnect technology for power module system integration (Invited)***
Karl Weidner (Siemens AG, Germany); Michael Kaspar (Siemens AG, Germany); Norbert Seliger (FH Rosenheim, Germany)

2:20 ***Reliability of Planar SKiN Interconnect Technology (Invited)***
Uwe Scheuermann (Semikron, Germany)

2:50 ***Keynote: SiC Device and Power Module Technologies for Environmentally Friendly Vehicles***
Kimimori Hamada (Toyota Motor Corporation, Japan)

3:30 PM - 3:50 PM

Closing

Room: Saal Kaiser Karl IV.